



# LABOR COST RECORDS

THEIR FORMS AND PREPARATION

*By*

JOHN JAFFE

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TO  
PROFESSOR ROY B. KESTER  
TEACHER, ADVISER, AND FRIEND





## PREFACE

This study develops in great detail that portion of Cost Accounting that relates to the business forms used and the procedures followed in accounting for labor costs. While it describes various systems of attendance and performance recording, the manner of preparing and paying the payroll, and the different types of forms that are utilized in these activities as well as in employment work, the purpose of the study has been the discovery and statement of the underlying principles in accordance with which all forms in general and given forms in particular should be devised.

Although this study is based on information obtained through interviews, from magazine articles the writers of which relate their particular systems of labor accounting, and from answers to a questionnaire, no particular part of the text can be assigned to any particular source, since, as stated above, the author attempts to set forth general principles underlying the various forms and procedures. Furthermore, all forms illustrated in the text, with the exception of Forms Nos. 24 and 25, are not those of any particular firm or firms interviewed or questioned through the questionnaire. Moreover, while a compilation of the answers to the questionnaire would have indicated the number of firms using a particular form or following a definite procedure, in a general study of this character, the fact that a certain form is used by a large firm or by a number of firms, both large and small, is of no outstanding significance. The utilization of any form or the application of any procedure in labor accounting depends not only upon the operating conditions prevailing but also upon the personal idiosyncracies of each management. Thus, whereas the inductive method has been employed to a limited extent, this study has had to be essentially deductive.

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April, 1934

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## CHAPTER I

### INTRODUCTION

#### Labor Accounting

Business management of today realizes, as never before, the importance of the labor factor in modern industry. It is cognizant of the fact that the proper treatment of labor is as important as the proper treatment of capital. The influence of this attitude is revealed in the establishment of regular and definite procedures which are to be followed in the handling of the labor factor. Thus, not only have business enterprises organized separate departments which bring the interest of the employee to the attention of the management, but they have also set up many practices which endeavor to foster, maintain, and insure the considerate treatment of the worker.

Nor are these practices the only ones which progressive business has established. Others, which deal mainly with the financial side of the employer-employee relation, include: the development of various methods of recording the worker's attendance for use as a basis in computing the amount due him for wages; the pursuance of definite practices in determining the production of workers who are paid on a performance basis; and the establishment of methods of preparing the payroll, of paying workers, and of determining the labor cost of the product.

In conjunction with these practices, industry uses various types of reports which deal chiefly with the worker's attendance, his production, and the amount due him. These reports serve not only as a basis for the financial dealings with the labor factor, but also as a source of information for the management in establishing its policies concerning labor.



It is with the principles and procedure followed in accounting for labor costs that this book mainly concerns itself. It is not the purpose of this study to explain in detail the functions and operation of an employment department, nor will it discuss at any length the various types of wage systems. It will deal chiefly with the various forms and reports used in employing the worker, in recording his attendance and performance, in determining the amount of wages due him, and in paying him his wages both on regular pay days and at such irregular times as may be caused by absence or departure. The study thus will treat of the procedure followed by business enterprises in connection with these forms and reports. In short, the book is a study of labor accounting, its principles, and its procedures.

### Forms

As mentioned above, the forms used in labor accounting serve as a medium to present the facts upon which the management bases its decisions. In addition to this purpose, they serve as a relatively permanent record of those facts so that frequent reference to them can be conveniently made.

The content of these forms—as of all forms used in business operation—depends, of course, upon the information desired by the management. If the management is interested in determining the cost of each operation through which a product passes, a form will be prepared for this purpose. If information is desired concerning the attendance of employees at the plant, forms giving this will be developed.

Certain principles are quite generally observed in the development of forms for use in business. The more important of these will now be pointed out and briefly explained.

As to content, the language used in all forms should be simple, inclusive, specific, and should be so phrased as to elicit the exact information sought. It should not be ambiguous or double in content so that both an affirmative and a negative answer may be required.

As to size, forms should be such as will contain all necessary data and, at the same time, facilitate the analysis of those data. For example, one time report may be prepared for each order, job, or operation on which the employee works during the day, or there may be one daily report which will show the time spent on all orders, jobs, or operations. The latter type of report will then require analysis so as to secure the labor cost on each job, order, or operation. The first type of report will eliminate such analysis.

As to method of preparation, all forms used in labor accounting may be prepared by hand, either by the worker himself or by a special timekeeper, or by a mechanical device. Where working conditions permit and when it is desired to obtain a record of the data which will be accurate and unquestionable, a mechanical device should be used, even though its initial cost may seem high.

As to audit and analysis, a form, after it has been completely filled out, is sent to the Accounting Department or to the Cost Department for analysis. Here a verification of its data is made. This may be done in either of two ways. The information may be rechecked for errors, or it may be compared with that shown on a related record. For example, the time shown on the performance records of an operator may be compared with that on the attendance record.

After verification the data are analyzed and reassembled. The labor costs may be analyzed to determine those which are directly applicable to the cost of the product and those which are to be included under factory overhead expense. After having served this purpose, the data furnished by the time or performance records may be reassembled to provide the necessary information for the preparation of payrolls in order that the total wage to be distributed among the workers may be known. Here again the use of mechanical devices may greatly aid in the analytic and synthetic processes. Tabulating equipment may be used in sorting the time reports and in preparing the final tabulations of results. Machines may also be used in preparing and analyzing the payroll.

In the following study the forms used in labor accounting will be discussed, wherever possible, from the five points of view

mentioned above: (1) function, (2) content, (3) physical form, (4) method of preparation, and (5) the ways in which their data are verified, analyzed, and synthesized.

#### **Uniformity of Procedure, Forms, and Reports**

It is not to be expected that the procedures followed and the forms and reports used in the handling of the labor factor will be the same for all businesses. These vary with each business according to operating conditions. In one type of business the working environment permits the use of a time clock in recording attendance, whereas in another type a time clock cannot be used.

On the other hand, even if the operating conditions are the same, the procedures, forms, and reports will vary in accordance with the information needed and the use made of it by each management. Then, too, custom and the worker's attitude may often require that a management adopt and follow a procedure or use a form that is neither necessitated by working conditions nor permitted from the standpoint of efficiency of operation. For example, a business may be using a brass check system of recording attendance, although working conditions and financial considerations would be better served by the use of time clocks. A business using bank checks in paying its employees may insist upon pay receipts properly signed by the worker when he receives his pay, although the check is made payable to the employee and, thus, upon indorsement by him, constitutes a satisfactory pay receipt.

## CHAPTER II

### EMPLOYMENT

#### Employment

The employment function in modern business is usually performed by a special department or official whose duty it is to interview and select efficient workers. In addition, a most important secondary purpose of this function is that of maintaining a stable labor force. This is usually accomplished through a social welfare program and also by interpreting, to each other, the mutual viewpoints and attitudes of employer and employee.

Although the employment department or the office of employment manager is a product of modern business management, such a method of caring for the labor function is not employed in all business enterprises. Notwithstanding the fact that the employment function must exist in all business enterprises of any size, some do not find it necessary to establish separate departments for this purpose. In some types of factories, for example, the simplicity of operations does not require workers of any degree of skill, and, since unskilled workers are plentiful at all times in front of the factory gate, no necessity exists for maintaining a stable labor force. The function of employment, then, may be performed by the departmental foreman who sends a notice of his requirements to the watchman at the gate, who, in turn, selects the applicants and sends them to the foreman for his approval.

#### Labor Requisition

Whether there is an employment department (or employment manager) or not, a notice of the need for an employee is usually given in writing by the departmental foreman and is approved by a departmental official who is higher in authority than the fore-

## LABOR COST RECORDS

man, such as the factory superintendent or works manager. This notice is known as the labor requisition.

These labor requisitions may be individual, in that one requisition is prepared for each worker needed, or multiple, in that one notice reports the need for a number of workers of the same or different trades. The first type of requisition has some advantages. It may be used as a notification to the departmental foreman or official that an applicant is being sent in answer to his

TRIPPLICATE

**R. TAYLOR ELECTRICAL SUPPLY CO.**

**LABOR REQUISITION**

DEPARTMENT \_\_\_\_\_ 19\_\_

**REQUIRED :** SEX \_\_\_\_\_ AGE \_\_\_\_\_ MARITAL STATUS \_\_\_\_\_

POSITION \_\_\_\_\_ TEMPORARY \_\_\_\_\_ PERMANENT \_\_\_\_\_ RATE \_\_\_\_\_

WORK TO START ON \_\_\_\_\_ REQUISITE EXPERIENCE \_\_\_\_\_

REPLACING \_\_\_\_\_ NUMBER \_\_\_\_\_ WHO

**TRANSFERRED**  
HAS BEEN PROMOTED TO DEPARTMENT \_\_\_\_\_ IS NO LONGER EMPLOYED \_\_\_\_\_

SUPERINTENDENT \_\_\_\_\_ FOREMAN \_\_\_\_\_

**NOTE: FILL OUT A SEPARATE REQUISITION SLIP FOR EACH EMPLOYEE NEEDED.**

Form No. 1. Individual Labor Requisition

requisition. If a multiple or group requisition is used when more than one worker is needed, the employing official will usually find it necessary to prepare individual written notices. In addition, the individual type of requisition may be used to notify other departments, such as the Payroll and Addressing Departments, as to the employment of the individual. Moreover, the requisition may be filed with other personnel records of the new employee.

The second type of requisition, however, has the advantage that its preparation does not consume as much time as the first type. If more than one worker is required at a particular time,

an individual requisition must be prepared for each—a time-consuming operation—whereas only one multiple requisition need be prepared.

Both types of requisitions usually have the following content: the date when issued; the name or number of the department requiring additional employees; the reason for the request; the sex and age of the workers; whether the applicants need be experienced or inexperienced; the kind of work; the rate of compensa-

BALL CORPORATION		_____ 19__	
<b>LABOR REQUISITION</b>			
To Employment Dept.		The following is a list of help required in _____ Dept.	
Quantity	Occupation	Date Wanted	Rate
Remarks: _____			
Date Received _____	Foreman _____		
Date Filled _____	Plant Director _____		

Form No. 2. Multiple Labor Requisition

tion; when employment is to begin; the permanency of the job; the name of the foreman issuing the requisition; and the approval of the higher official. The multiple requisition, of course, specifies the number of workers needed, whereas the individual type shows the need for but one worker. However, where the individual type is used, space may also be provided for the foreman to notify the employing official as to the acceptance or rejection of the applicant.

The labor requisition, signed by the foreman and approved by a superior official, may be prepared in any number of copies. If two copies are made by the foreman, he can retain one for his

files so that he may follow up the action of the employing official or Employment Department. If three copies are made, two may be sent to the Employment Department, where a copy will be given to each of the two interviewers who are to confer with the applicant.

The procedure through which the requisition passes when it is received by the employing official or department differs according to each business. The requisition, in some cases, may be returned to the issuing foreman when the applicant is sent to him for his approval. If the worker is satisfactory, the requisition is again signed by the foreman and sent back to the employing official who notifies the other departments interested in the employment. In other cases the requisition is kept by the employing official when he receives it. The latter official then prepares notices to the foreman and to the other departments. If the watchman at the factory entrance sends the applicants to the foreman with the requisition, the latter, in turn, notifies the other departments interested.

### The Application Record

Either before or after the receipt of the labor requisition, an application form, the purpose of which is to secure as many facts concerning the applicant as the management desires, is prepared. The application form is prepared by either the applicant or the interviewer. When the applicant is illiterate, the interviewer may have to prepare it. On the other hand, if the applicant is able to read and write, he may or may not be required to fill it out. If the applicant does prepare it, the interviewer is enabled to form an opinion concerning his education and character from the manner in which the answers to the questions are written. Notwithstanding this, it may be more advantageous to have the interviewer fill out the record, inasmuch as the applicant may find it difficult to answer the questions, due to their ambiguity or some other misunderstanding. Moreover, the interviewer may be able to obtain more detailed information when he personally asks the

## EMPLOYMENT

9

Hunt Brothers, Incorporated			Employment Record (Front)	
Name	No.	Dept.		
Occupation	Date Work Began	Time Work Began		A.M. P.M.
Rate	per Hour per Piece	Employed by		
Employment	Approved by			
Rate Changed to	per Hour per Piece	Date New Rate is Effective		
Remarks	19			
Approved by				

Hunt Brothers, Incorporated			Employment Record (Back)	
Employee's Address	Sex	Race	Marital Status	No of Dependents
Date of Birth	Place of Birth	Nationality	Citizenship	
In Case of Accident Notify				
Previously Employed Here?	Job Held	When?		
Leaving Employment?		Effective		
<input type="checkbox"/> Discharged <input type="checkbox"/> Laid Off <input type="checkbox"/> Resigned		19		
Remarks				
(Employee Signs on this Line)				

Form No. 3. Application or Employment Record

questions than when the applicant is merely required to write out answers to them.

The information on the application blank varies in accordance with the information desired by the management. The following personal data are, in some cases, asked for: name of applicant, sex, date and place of birth, marital status, dependents, national-



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ity, church affiliation, race, and the name of the person to be notified in case of accident. In other cases the physical characteristics and health of the applicant, his academic and vocational training, his practical experience, and the names and addresses of his previous employers, together with the various reasons for leav-

EMPLOYMENT RECORD					
Dept.		No.	Occupation		Date
Name		Address		Time Work Began A.M. P.M.	
Sex	Race	Date of Birth	Marital Status	No. of Dependents	
Nationality		Read and Write English			
Citizen		" " " Own Language			
Last Employer			Length of Last Employment		
Reason Given for Leaving					
Remarks					
Rate		Signed by _____ Foreman			
R. & L. Knight Company					

Form No. 4. Application or Employment Record

ing each job, are shown on the application form in addition to the personal data mentioned above.

Some of the facts given on the application are often found useful in determining the fitness of the candidate for the position. The marital status may indicate reliability and steadiness. Married men are less apt to wander from job to job, inasmuch as they must be provident and thrifty to support dependents. On the other hand, they may hesitate to accept a position that requires traveling.

The nationality of an applicant and the country of which he is a citizen are important. Members of one nationality may be preferred as against members of other nationalities. If an appli-

# EMPLOYMENT

II

NAME		FIRST NAME		MIDDLE INITIAL	COPE MANUFACTURING COMPANY, INC.	
					PAYROLL NUMBER	CARD NUMBER
ADDRESS		TELEPHONE		HOUSEKEEPING <input type="checkbox"/> BOARDING <input type="checkbox"/> LIVING WITH PARENTS		
DATE OF BIRTH		PLACE OF BIRTH		HEIGHT	WEIGHT	
MARITAL STATUS		NUMBER OF DEPENDENT ADULTS		RELATIONSHIP		
ADDRESS OF DEPENDENT ADULTS		OWN <input type="checkbox"/> OR BUYING <input type="checkbox"/> A HOME		WHERE?		
AMERICAN CITIZEN?		DATE OF ARRIVAL IN U.S. (IF FOREIGN BORN)		PASSPORT SEEN BY (INDICATE)		
NUMBER OF CITIZENSHIP PAPERS TAKEN OUT		DATES				
TRADE WORKED AT		WHERE?		WHEN?		
TYPE OF WORK WANTED HERE		FIRST CHOICE		SECOND CHOICE		THIRD CHOICE
IN CASE OF ACCIDENT, NOTIFY		ADDRESS		TELEPHONE		RELATIONSHIP
PREVIOUSLY EMPLOYED HERE?		WHEN?		NAME AND RELATIONSHIP OF RELATIVES EMPLOYED HERE		
SCHOLASTIC TRAINING		NAME OF SCHOOL		LOCATION		GRADE RECEIVED
GRAMMAR						
HIGH						
COLLEGE						
BUSINESS OR TRADE						
CERTEFICATION, ETC.						
PREVIOUS EMPLOYMENT		NAME OF EMPLOYER		ADDRESS		NAME OF BUSINESS
FROM		TO				JOB YOU WOULD
FROM		TO				
FROM		TO				
FROM		TO				
APPLICANT'S SIGNATURE		INTERVIEWED BY		DATE		
SOURCE OF APPLICANT		APPROVED BY		DATE		

Form No. 5. Application or Employment Record

cant is a foreigner, there is a likelihood of his returning to his native country, thus resulting in a loss of an employee.

Church affiliations and race are asked if the employing business objects to or favors the acceptance of members of certain religions or races. Thus, it is common knowledge that negroes are chiefly employed in menial and manual work such as porters, waiters, etc.

The physical characteristics and health of the applicant, covering such data as his height, weight, color of his eyes and hair, physical defects, and his health in general, are not to be disregarded in employment. Applicants of a certain height or weight may not be desirable. For example, the Board of Education of a certain large city objects to the employment of teachers who are under a definite height or over a set weight. Defective eyesight may interfere with an applicant's efficiency. On the other hand, a person with a defective organ of sense may be accepted because of the high development of his other organs of sense. Due to a high development of the sense of touch, a blind person would be acceptable for employment wherever this superior faculty is needed.

The significance of an applicant's academic and vocational training is immediately evident and, therefore, needs no further comment.

The names and addresses of former employers are useful not only in communicating with such persons or firms, but also in that they may give the interviewer some notion of the applicant's importance in the organization and the character and degree of excellence of the work that was demanded of him.

### **Medical Examination**

The physical characteristics and general health, mentioned above, are those that are easily ascertained by the interviewer either by means of observation or by questioning. However, in order to ascertain more correctly and completely the applicant's physical condition, a thorough medical examination should be given.



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Such information may be of value for several reasons. First, the character of the industry may be such as to require the employment of healthy individuals, as is the case in the manufacture of lead or other chemical products, or as in tanning. Second, to protect himself against unjust claims for compensation, an em-

GH WENTON'S SONS, INC. NEW YORK, NEW YORK		APPLICATION AND PERSONNEL CARD	
NAME _____		AGE _____	ADDRESS _____
MARITAL STATUS _____		NATIONALITY _____	CHANGE OF ADDRESS _____
LAST EMPLOYED BY _____		AS _____	
REASON GIVEN FOR LEAVING _____			
ENTERED OUR EMPLOY ON _____		19 _____	AS _____ RATE _____
DEPARTMENT _____		FOREMAN _____	
DISCHARGED		FROM OUR EMPLOY ON _____ 19 _____	
LAID OFF			
RESIGNED			
CONDUCT _____		ABILITY _____	
REMARKS: _____			
_____			

Form No. 7. Application and Personnel Record

ployer should ascertain at the time of employment the vocational or other diseases, such as hernia or tuberculosis, from which the applicant is suffering. If this is not done and an applicant with hernia, for example, is employed, he may later state that his condition is the result of his new job and so demand, from his new employer, compensation for his injury. Third, every employer should strive to provide sanitary and healthful surroundings for his employees. No individual desires to work with one suffering from a venereal disease or from tuberculosis. Moreover, the employment of diseased individuals may result in the spread of the disease throughout the plant. Therefore, the physical condition of each applicant should be ascertained by means of a thorough medical examination. Fourth, a knowledge of all the facts

MIDLAND COMPANY		EMPLOYEE'S RECORD	
Name		Clock No.	Employment Began
Local Address		Phone	Home Address
Birth Date		Place	Citizenship
Education		Marital Status	Dependents
Occupation: 1 <sup>st</sup> Choice		2 <sup>nd</sup>	3 <sup>rd</sup>
Previous Employer	Location	Dates	Position
Physical Examination and General Physique:			
Ht.	Wt.	Hernia (Inguinal)	Sight
Heart		" (Umbilical Ventral)	Hearing
Lungs		Patulous Inguinal Rings	Arms Hands
Abdomen		Varicocele	Legs Feet
Skin		Genito-Urinary	Joints
Spine		Urinalysis	Varicose Veins
Previous Illness			
Remarks:			

Employee's Signature				Clock No.			
Departmental Transfers:							
Date	New Dept.	New Operation	New Rate	Reason for Transfer	Quality of Work	Attendance	Attitude
Code:							
1 = Laid Off		5 = Another Job		9 = Reason Unknown			
2 = Health		6 = Leaving City		10 = Discharged (Reason)			
3 = Leave of Absence		7 = Working Conditions		11 = Resigned ( " )			
4 = Wages		8 = Suspended		12 =			
G = Good		F = Fair		P = Poor			
Ended Employment Here On							
Reemploy?							

concerning an applicant's physical condition enables the interviewer to place the candidate in the position for which his physical condition, training, and experience best fit him. Fifth, a thorough knowledge of the applicant's physical condition is necessary for the purpose of group insurance.

The facts discovered by a medical examination may be incorporated in an applicant's application. Where the medical reports are kept only by the examining physician, a separate record should, of course, be maintained.

### Other Personnel Records

In addition to the application, other records regarding the employee are kept. A personnel record, which sets forth the experiences of the new employee under his new employer, may be used. The data shown by this record consist of the wage rate changes made in his behalf, the dates thereof, the transfers to the various departments, and the opinion of his superiors concerning his work, in addition to the facts described above under "Application."

A second record which may be maintained is one showing the amount earned by the worker at the end of each pay period during a year or more. This may also show specifically the bonus or

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Tot.
Jan.																															
Feb.																															
Mar.																															
Apr.																															
May																															
Jun.																															
Jul.																															
Aug.																															
Sep.																															
Oct.																															
Nov.																															
Dec.																															

Dept. \_\_\_\_\_  
 No. \_\_\_\_\_  
 Name \_\_\_\_\_  
 Address \_\_\_\_\_  
  
**TARDY AND ABSENT  
RECORD**  
 Key 

T	Tardy
A	Absent

  
 Total for 19\_\_ 

T
A

  
**ROBERTS  
HARDWARE CO., INC.**  
 Employment Dept.

Form No. 9. Attendance Record for Entire Year

premiums received for work above the standard. These facts may be incorporated with the personal record described above, inasmuch as those earnings form part of his experience.

A third record which may be kept separately from the personal record is one that shows the attendance of the worker for a year or more. Such information is useful in determining the steadiness and punctuality of the worker. This is particularly necessary for the distribution of a bonus which is based on attendance only.

Besides the above three records, a fourth record may be used to indicate the worker's degrees of efficiency during his employment. These may be in the form of a statistical tabulation or on a graph which shows the employee's progress.

### **Job Routine and the Applicant**

If, after a careful consideration of the facts shown by the application, the applicant meets, in the opinion of the employment manager or interviewer, the requirements of the position or job, he is then passed on, for final approval, to the head of the department or the foreman in need of additional help. The introduction of the applicant to the foreman or the departmental head and to his associates may be done by the interviewer himself, by some other member of the Employment Department, or by the timekeeper of the department to which he is sent. This same or other official will also instruct him as to the working regulations and, particularly, as to the clerical routine which he is required to perform in connection with his work, such as, for example, attendance recording. If the watchman at the gate selects the applicants, he may tell them to report to the foreman for approval and then allow the timekeeper to take care of them. However, wherever possible, such routine matters should usually be performed by the interviewer himself, inasmuch as the surroundings and the working associates would be less strange to the new employee.

### **Identification Systems**

After the applicant is finally accepted, he is given a number or mnemonical device by means of which he is identified.



The simplest form of such identification systems is that in which the employees are numbered in numerical sequence. Under this form the number of a discharged employee may never be discarded, or it may be used again after an interval of a few days. Such a number signifies nothing but an employee's position on the payroll. The department in which he is working or the name of the foreman who is his superior cannot be ascertained at all. This disadvantage may be overcome by using a letter to indicate the department or superior.

A second form of identification system is that in which a series of numbers is allotted to each department. For example, numbers from 1 to 50 are assigned to workers in Department A, those from 51 to 100 to members of Department B, and so on until all employees have numbers. This form requires an estimate of the number of workers currently to be employed in each department and an allowance for expansion. The chief advantage of this form of numbering system is obvious, in that the department in which the employee works can be easily ascertained. Furthermore, it facilitates the collection of the payroll data, for all time reports can be easily sorted by numbers and, hence, by departments. Moreover, if the wage payment is distributed in the departments, the pay envelopes of each department can be grouped together in numerical sequence and thus easily given out to the workers. On the other hand, this form of identification has the disadvantage of necessitating a change in an employee's number if he is transferred to another department. Such change is not necessary if the numerical system first mentioned above is used.

A third form of identification system is one in which the number signifies not only the department but also the sex and whether the employee is a factory or office worker. For example, all numbers from 001,000 to 200,999 may be used to represent factory workers, whereas numbers from 201,000 to 400,000 indicate office workers. Numbers from 001,000 to 050,999 may be used to designate female factory workers and those from 051,000

to 200,999 male factory workers. The numbers for office workers may be divided in a similar manner. The first three digits of each number may be used to denote the department and the last three the number of the worker in that department. Although this system may appear to be simple, great care must be taken in assigning the numbers to the various departments. If each department consists entirely of either male or female workers, then the numbers from 001,000 to 050,999 may be divided among the factory departments that have only female workers, and those

_____ 19__	
_____, the bearer of this	
EMPLOYEE'S PASS,	
is employed in the _____ Department of the	
MARSH MFG. CO.	
Identification: Sex _____	Color of Eyes _____ Height _____
Signature of Employee _____	
Note: The employee must show THIS PASS in order to be admitted to the Plant. THIS PASS is valid only during regular working hours. THIS PASS must be surrendered upon receipt of final pay.	
Issued by _____ (Employment Department)	

Form No. 10. Employee's Pass

numbers from 051,000 to 200,999 are to be distributed among those departments that have only male workers, so that a worker's department may be easily identified from his number. Each department will have only one series of numbers. If, however, a department consists of male and female workers, each department must, then, have two series of numbers, one to designate the male workers and another the female workers. For this reason the numbers must be distributed accordingly, wherever a department employs workers of both sexes.

A modification of the third form is one in which an asterisk is used with a number to distinguish between a male and a female worker. This avoids the necessity of having two series of numbers to make this distinction.

Another form of identification system is one which consists of a photograph of a worker, his fingerprints, and two series of numbers, one for the worker and the other for the department in which he is employed. The background of the photograph is of such design as will show the section to which his department belongs.

A fifth form consists of colors which indicate the department, a letter designating the foreman under whom the employee is working, and numerals which indicate the worker's sub-foreman.

From the various forms of identification systems described above, it is evident that the type to be used depends upon the informational data required of the system. If more than one datum is to be indicated, the complexity of an identification system is thereby increased.

#### **Notification of Various Departments**

After an applicant has finally been accepted by the foreman or departmental head and a number or symbol has been assigned to him, the various departments interested in his employment are notified either by the Employment Department, the timekeeper, or the foreman. Thus, a notice is sent to the Payroll or Accounting Department for the purpose of authorizing it to place the name of the new employee on the payroll. This notice indicates the operator's name, number, department, occupation, rate of pay, date and time when employment begins, signature of the foreman and, perhaps, that of another official, in addition to all other information that may be found necessary. Another notice bearing the same data may be sent to the Addressing Department, which prepares the metal plates that are used in stamping the name and number of the employee on all time cards, on the payroll, and on other labor accounting forms.

#### **Summary**

The function of employment, whether it is executed by a special employment department or not, requires the use of various reports. The first of these, the labor requisition, acquaints the

employing official with the need for additional help and may be individual or multiple. The next report of importance, the application, contains data which concerns the prospective worker and which may, depending on the practice of the business, vary from a mere recording of the applicant's name, address, and vocation to an extensive tabulation of his personal and medical histories. The employing department then assigns, in accordance with the type of identification system utilized, an identifying symbol to each accepted employee. Notifications that a new worker has been engaged are sent to the Payroll and Addressing Departments. Further reports, such as the worker's attendance and wage reports for one year, are also often prepared in order that the employee's progress may be observed.

## CHAPTER III

### ATTENDANCE RECORDS AND RECORDING

#### **Necessity for Attendance Records**

Maintenance of a record of the attendance of employees upon their work has always been considered a requisite of proper labor management. If the record of attendance is not the basis for the wage payment, it does serve to give information as to regularity, punctuality, and general dependability for service—data which should always be taken into consideration in the management of the labor factor. Where an employee sells his services on a time basis, and especially when there is no record kept of the time he spends on each job, operation, or process, attendance recording is found to be a necessity. Moreover, where a bonus, based on attendance, is distributed to all employees, both to those who work on a time basis and to those who are employed on a performance basis, an attendance record cannot be dispensed with. Some formal record of attendance is, therefore, usually found in all but the smallest concerns.

#### **Manner of Recording Attendance**

There are various ways of keeping track of an employee's attendance. One way is to record the time he spends in the plant or on the job. This is done by keeping an accurate record of the time he arrives and of the time he leaves. Under a second method, only his absences, latenesses, and early departures are recorded. The difference between the total time required of the employee and the time represented by his absences, latenesses, or early departures constitutes the interval of time he was present. A combination of the two methods just described comprises a

third method, which thus gives more complete information. By a fourth method the time shown on his daily time or performance reports is summarized to secure his total attendance. This will not interfere with the calculation of a worker's remuneration, inasmuch as the total hours to be paid for, if the worker is paid on an hourly basis, can be easily ascertained by totalling the time shown on the performance reports. On the other hand, if the worker is paid on a day basis, there will be no difficulty provided that the number of hours constituting a pay day is defined. Some complexities are encountered if idle or waiting time is paid for—frequently at a lower rate than for working time.

The choice of the method to be used depends on several factors, one important consideration being the person charged with making the record. If the employee records his own time, the use of the first and fourth methods results in a record which he cannot well dispute inasmuch as he himself has made it. If the second method is used, his absences and latenesses will be recorded by a timekeeper and may thus be subject to dispute.

### **Systems of Attendance Recording**

Whether the actual record of attendance is made by the worker or by a timekeeper, such record constitutes a part of the general system of attendance record-making. Such systems vary and so may be classified in different ways. Thus, according to the place of making the record, a system may be centralized or decentralized. Where all employees—factory and office—are required to report their attendance in one place, a centralized system prevails. On the other hand, if attendance is recorded in various places, such as departments or at different entrances to the plant, the system is a decentralized one. Where, however, factory workers are required to report their attendance in one place and office employees in another, the system for each class should be considered centralized.

Each of the above systems has its advantages and disadvantages. A centralized system does not involve the use of as

many clock devices as a decentralized one—if such devices are used—and so does not necessitate a large financial expenditure for their purchase and maintenance. Also, a centralized system saves the time of members of the Accounting or Payroll Department in collecting and replacing the attendance records. Contrariwise, a centralized system of recording may result in a loss, to the employer, of the time required by all employees to reach their place of work, if the latter is distant from the recording place. Although a decentralized system requires the use of a larger number of clocks than a centralized one, the increased expenditure for additional time clocks may be offset by a reduction in the loss of time incurred by an employee when the place at which he reports his attendance is distant from his place of work. For example, if five or more buildings, in which the manufacturing operations are carried on, are scattered over four large city blocks, and if there is one central place at which all employees report their arrivals and departures, there would be a loss of time on the part of the employee in reaching his place of work. In such a case, it might well be cheaper for the attendance record to be made at the entrance to each building or in each department.

The use of a centralized or decentralized system of record-making thus depends upon working conditions. Where operating departments are distant from the entrance, or where the employees are scattered over a large area, a decentralized system should be used. Where all employees work in one building and very little time is lost by the worker in reaching his department, a centralized system will usually be found more satisfactory. If, in addition, careful scrutiny must be made of each employee as he arrives or leaves the plant—as might be the case in times of war or labor disturbances—a centralized system of recording would serve better.

### **Methods of Recording**

Systems of recording attendance may also be classified in accordance with the method of making the record. Under this classification, a system may use the hand or machine method.

**HAND METHODS OF RECORDING.**—Under the hand method, the worker or a special timekeeper records the attendance by hand. Inasmuch as it would require an unwarranted dependence on the worker's honor if he were allowed to record his own time, and since many workers may not be sufficiently literate to make the record, this method, with the worker making the record, is not used in industry. It is, however, often employed in the professions and in similar undertakings, as in small public schools where the members of the teaching staff are not numerous and can be depended upon to make an accurate record.

The method in which a timekeeper records attendance by hand is prevalent among different types of industry and is found in various forms. Under one form, the timekeeper is required to visit the worker at his work at certain intervals during the day, and check the employee's number in a time book each time. Under another form, central stations, in charge of timekeepers, are set up at the entrance to the plant or field of operation. As each employee calls out his number to the timekeeper, the latter repeats it to a clerk who checks the employee's number in his time book or attendance record. This form of attendance recording is often used by construction companies and by those companies whose employees are working over a large area, such as in lumbering, plantation work, and crude oil production.

These forms of attendance recording have a common advantage in that they make it difficult for a foreman to pad a payroll with false rates. It frequently occurs that an efficient employee has reached the maximum rate of pay allowed for his type of work, and the foreman, wishing to keep him, reports his occupation as that of another class, so that a higher rate may be paid. In such a case, by the use of either of these forms of recording attendance, the timekeeper may easily discover the misrepresentation by comparing the work being done by the employee with the occupation stated in his time book.

A third method involves the use of a brass check upon which the employee's number is stamped. Under one form of brass



check system, the check is in the possession of the worker who drops it in a box or hangs it on a hook of a rack when he arrives at the plant. The hooks are numbered, each hook holding the check bearing a number corresponding to its own. All late-comers are required to hand their checks to the timekeeper personally. Immediately after starting time, the timekeeper notes on his attendance record the numbers of all missing brass checks, and later visits each worker at certain intervals. This form of brass check system is followed under a centralized system of attendance recording.

A second form of brass check system may be used under a decentralized system. All brass checks are kept on a rack at the main entrance, if there is only one such entrance. If there are a number of entrances, there are kept at each only the brass checks of those who make use of it. Upon arrival, each employee receives his check from the watchman and brings it to the department where he is employed. There it is hung on another rack which is closed a few minutes after starting time either by the foreman or timekeeper of the department. The timekeeper or foreman then prepares his attendance report by recording the numbers whose checks are missing. If the employee comes late, he must, because the rack is kept closed, present his check to the timekeeper or foreman personally who makes note of the time of arrival. At quitting time, the rack is opened to permit the worker to get his check which he gives, on leaving, to the watchman or gateman at the outer entrance.

A brass check system has some advantages over a time clock system. First, there is no outlay for expensive time clocks or for their maintenance. Second, it is difficult for one employee to use another's check inasmuch as such a practice will be immediately discovered when the foreman or timekeeper examines the racks. Under a clock system, it is possible for an employee to punch his own attendance card and that of another employee who may be late or absent. Third, there is very little time lost by an employee in recording his attendance under a brass check

system as compared with the time that is lost when it is necessary for the worker to punch a clock.

Although a brass check system has the above advantages as compared with a time clock system, it also possesses some disadvantages. In the first place, there is no accurate record of the exact time an employee arrives at and departs from the plant. The brass check system makes it necessary for an employee to have his check in the rack at starting time and only when he comes late is the exact time of his arrival recorded. For better personnel administration, it may be found desirable to know the exact time of arrival or departure of each employee. In the second place, the attendance record made under a brass check system may be subject to manipulation or dispute. This would not arise under a time clock system. In the third place, the brass check may easily be lost or worn out. The replacement of the check would then be made at the expense of the employee in the case of its being lost, or of the employer in the case of its wearing out. Under a time clock system, there is no such expense to the employee, whereas to the employer there is a current outlay only for the cards or sheets upon which the attendance record is made.

**MACHINE METHODS OF RECORDING.**—Opposed to the hand method of recording attendance is the machine method which, in turn, may be classified either according to the type of record made by the machine or according to the machine's automatic operation. Under the first classification, machines produce an attendance record that is individual for each employee or is collective for a group of employees. This classification will be treated in detail when the subject of the forms used in attendance recording is discussed.

Under the second classification, the time recording devices are automatic, semi-automatic, and non-automatic. The automatic type makes three shifts automatically. The first shift is the change of ribbon to indicate irregular time. For example, if the regular starting and stopping times are printed in blue ink,

then the times of latecomers or early departers will be stamped in red. The second shift which the device makes automatically is to set the mechanism so that it prints, in the proper place on the attendance record, the hour and minute of arrival or departure. For example, when the attendance card of an employee is inserted in the recording machine, the time of arrival is stamped automatically in the "In" section of the card and the time of departure in the "Out" section. This is done not only for the regular working time but overtime as well. The third shift permits the mechanism to print the arrival and leaving times in the section allotted to each day. In other words, the automatic time clock makes a ribbon change, a day to day change, and an "In" and "Out" shift automatically.

The semi-automatic type does not effect a change in the printing ribbon nor does it make the "In" and "Out" shift. It does, however, make the day to day shift, so that the times of an employee's arrival and departure are recorded in a section of the card allotted for each day. (See Form No. 15A.)

The third class or non-automatic type of clock makes no automatic shifts of the mechanism. All the adjustments for printing the arrival and leaving times in their proper places on the attendance record must be made by the employee himself.

#### **Form and Content of Attendance Records**

There are two main classes of attendance records. One class, that which is individual, sets forth the attendance of one employee, whereas the second class, that which is collective, presents the attendance of a group of employees.

The individual class or type of attendance record is largely used with mechanical recording devices and shows the name and number of the employee, the period of time covered by the report, the names or the dates of the days of the pay period, and the employee's arrival and departure times during the regular hours of work and during overtime. In addition to these facts, the record, in many instances, indicates the total number of hours

that the employee was present, the wage rate per hour, and the total wages for the period.

The second or collective type of record is used with the hand method as well as with the machine method of recording and shows the arrival and departure times of a group of employees for a day or for a complete pay period. The information thereon, however, depends upon the method used. Where the record is made by a mechanical device, the arrival and departure times and the number of each employee are printed. The record may show, in addition, the employee's name, the total number of hours worked during the weekly pay period or during the day, the rate of pay, and the total amount due.

Under the hand method, the collective type of record indicates the hour and minute of arrival and departure of each employee only when he arrives late, departs before the regular quitting time, or after having worked overtime. In addition, it allows sufficient space for the timekeeper to insert check marks in order to indicate the worker's presence or absence on the job when the timekeeper makes his rounds.

Whether the collective type of record is made by hand or by a mechanical device, it should show the period of time covered by the report and also the name of the department if the report covers such a grouping of employees.

#### **Arrangement of Data on Report**

The arrangement of the information on the individual type of record varies with the mechanical device. If the automatic type of recorder is used, the employee's arrival and departure times each day during the regular working hours and during overtime are shown horizontally, as in Forms Nos. 11 and 12. This arrangement is made necessary by the automatic "In" and "Out" shift and the device that raises the card from day to day.

Another arrangement is one in which the in and out times are registered vertically on the card and the names of the days of the payroll week are shown horizontally, as illustrated in

## LABOR COST RECORDS

Forms Nos. 13, 14, and 15. This type of card must be used for a pay period covering one week and is suitable for employees who are on different working shifts, inasmuch as lateness is indicated by the position of the arrival time on the card. In Form

WEEK ENDING <u>June 6</u> 1925		L. T. R. Co. Form No. 1212		No. <b>24</b>		NAME	
<b>B. BARNES</b>							
MORNING IN	NOON OUT	NOON IN	NIGHT OUT	EXTRA IN	EXTRA OUT		
<u>Σ 7 01</u>	<u>Σ 12 02</u>	<u>Σ 12 50</u>	<u>Σ 5 03</u>			<u>8 3/4</u>	
<u>Σ 6 59</u>	<u>Σ 12 05</u>	<u>Σ 12 55</u>	<u>Σ 4 59</u>			<u>8 3/4</u>	
<u>Σ 6 45</u>	<u>Σ 11 30</u>	<u>Σ 12 54</u>	<u>Σ 5 01</u>	<u>Σ 6 00</u>	<u>Σ 9 05</u>	<u>11 1/2</u>	
<u>Σ 6 55</u>	<u>Σ 12 01</u>	<u>Σ 12 50</u>	<u>Σ 5 05</u>			<u>9</u>	
<u>Σ 6 53</u>	<u>Σ 12 00</u>	<u>Σ 12 59</u>	<u>Σ 5 04</u>			<u>9</u>	
<u>Σ 6 58</u>	<u>Σ 12 02</u>	<u>Σ 1 02</u>	<u>Σ 5 00</u>			<u>8 3/4</u>	
TOTAL TIME <u>55 3/4</u> HRS							
RATE <u>60</u>							
TOTAL WAGES FOR WEEK \$ <u>33.45</u>							

(Courtesy of International Business Machines Corporation)  
Form No. 11. Attendance Record for Weekly Pay Period

No. 13 the employee whose working hours are from 7:30 A.M. to 11:30 A.M. and 12 M. to 4:00 P.M. departed eleven minutes before closing time on Tuesday and eleven minutes before the lunch period on Thursday. In Form No. 14 the employee whose

## ATTENDANCE RECORDS AND RECORDING

31

hours are from 7:30 A.M. to 12:30 P.M. and from 1:00 P.M. to 4:00 P.M. arrived from lunch thirteen minutes late on Tues-

PAY PERIOD ENDING

No. **220**

Oct. 31-1930

NAME PAUL GREEN

You are your own Timekeeper.  
We pay by this record,  
your own recording.

Date	IN	OUT	IN	OUT	IN	OUT	Total
16	6:57	11:32	12:28	5:05			9
17	7:01	11:34	12:25	5:06			8 3/4
18	6:55	11:33	12:27	5:04			9
19	6:52	11:36	12:55	5:07			8 3/4
20	6:49	12:02					5
21							
22	6:54	11:31	12:25	5:10			9
23	6:58	11:35	12:21	5:01	5:30	9:30	13
24	6:50	11:30	12:27	5:02			9
25	6:53	11:33	12:26	5:04			9
26	6:56	11:33	12:28	5:08			9
27	6:59	12:10					5
28							
29	6:49	11:33	12:29	5:40			8 3/4
30	6:53	11:35	12:21	5:03			9
31	6:58	11:34	12:25	5:06			9
REGULAR HRS <u>117 1/4</u> RATE <u>60</u> REGULAR PAY <u>70 35</u>							
OVERTIME HRS <u>4</u> RATE <u>90</u> OVERTIME PAY <u>3 60</u>							
TOTAL HRS <u>121 1/4</u> TOTAL PAY <u>\$ 73 95</u>							

FORM 2502

PRESS OF STROMBERG ELECTRIC CO., CHICAGO

(Courtesy of Stromberg Electric Co.)

Form No. 12. Attendance Record for Semi-monthly Pay Period

day and departed twelve minutes before regular quitting time on Thursday. These irregular in and out times are shown by the registration, in the section above or below that in which the

## LABOR COST RECORDS

regular arriving or departing time is shown, of the hour and minute of arrival or departure. Forms Nos. 13 and 14, however, are used in the same recorder, although the two employees are on different working shifts. In Form No. 15 lateness and early departure are indicated by the time registration being in red rather than in black ink and by position. It should be noted

No. 103							
NAME <u>O M Freeman</u>							
PAY PERIOD ENDING Jan 24, 1931							
	MON	TUE	WED	THU	FRI	SAT	SUN
1	7:26	7:28	7:29	7:21	7:24	7:28	
2							
3				11:19			
4	11:35	11:33	11:37		11:38	11:34	
5	11:39	11:31	11:34	11:35	11:39		
6							
7							
8							
9							
10							
11							
12		7:29					
13	7:40		7:40	7:40	7:40		
14							
15							
16							
TOTALS	8	7 1/4	8	7 1/4	8	4	
WEEKLY TOTALS						43 1/2	
RATE <u>50¢</u>						TOTAL TIME <u>21 75</u>	
FORM 2000. PRINTED BY STROMBERG ELECTRIC CO. CHICAGO, ILL.							

No. 101							
NAME <u>G. G. Fagot</u>							
PAY PERIOD ENDING Jan 24, 1931							
	MON	TUE	WED	THU	FRI	SAT	SUN
1	7:25	7:28	7:20	7:23	7:26	7:29	
2							
3							
4							
5							
6							
7							
8	7:25	7:28	7:20	7:23	7:26	7:29	
9	7:29		7:29	7:28	7:28		
10			7:13				
11							
12				7:30			
13	7:40	7:42	7:40		7:40		
14							
15							
16							
TOTALS	8	7 1/4	8	7 1/4	8	5	
WEEKLY TOTALS						44 1/2	
RATE <u>50¢</u>						TOTAL TIME <u>22 75</u>	
FORM 2000. PRINTED BY STROMBERG ELECTRIC CO. CHICAGO, ILL.							

Form No. 13. Attendance Record for Weekly Pay Period

(Courtesy of Stromberg Electric Co.)  
Form No. 14. Attendance Record for Weekly Pay Period

that by indicating irregular attendance by a change in ribbon only, Form No. 15 may, like Form No. 12, be used for a semi-monthly instead of a weekly pay period.

A third arrangement of the information on the individual type of record is that which is shown in Form No. 15A. Here the in and out times of the employee are registered, one below

the other, on the side of the card. This card may be used with the semi-automatic type of recorder in which the automatic "In" and "Out" changes are not made.

The arrangement of the information on the collective type of attendance record depends upon whether the machine or the

Form No. 432		JUNE 6 1925.						
WEEK ENDING		191						
No.		27						
NAME		Wm. Gould						
	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	
1	Σ 8 15		Σ 8 25	Σ 8 30	Σ 8 29	Σ 8 18		
2		Σ 8 50						
3								
4								
5								
6	Σ 12 03	Σ 12 06	Σ 12 01	Σ 12 05	Σ 12 10	Σ 12 01		
7	Σ 12 55	Σ 12 59	Σ 1 00	Σ 12 44		Σ 12 49		
8								
9					Σ 2 18			
10			Σ 3 45					
11								
12	Σ 5 31	Σ 5 32		Σ 5 35	Σ 5 31	Σ 5 30		
13						Σ 6 00		
14								
15						Σ 9 01		
16								
Daily Total	✓	7½	6¾	✓	6½	11		Weekly Totals 47½
RATE.....		80						
TOTAL WAGES FOR WEEK		37.80						



## LABOR COST RECORDS

Paul Brothers, Inc.					Employee's No. _____				
Week Ending _____					Name _____				

M O N D A Y	A.M.	In				T H U R S D A Y	A.M.	In			
		Out						Out			
	P.M.	In		Out			P.M.	In		Out	
		Out			Out						
	Extra	In		Out			Extra	In		Out	
		Out			Out						
T U E S D A Y	A.M.	In				F R I D A Y	A.M.	In			
		Out						Out			
	P.M.	In		Out			P.M.	In		Out	
		Out			Out						
	Extra	In		Out			Extra	In		Out	
		Out			Out						
W E D N E S D A Y	A.M.	In				S A T U R D A Y	A.M.	In			
		Out						Out			
	P.M.	In		Out			P.M.	In		Out	
		Out			Out						
	Extra	In		Out			Extra	In		Out	
		Out			Out						

Hours (Regular Time) @ \$	per Hour: \$
Hours (Extra Time) @ \$	per Hour: \$
Total Wages for the Week \$	



## LABOR COST RECORDS

Frederick Kortz	\$846
Geo. Selomber	\$851
J.D. Nettleton	\$858
Ruth Carlton	\$858
Laura Wilson	\$859
Joseph Marks	\$900
Amy Littleton	\$900
Carl Saunders	\$900
Arthur Hill	\$901
Patrick Horton	\$902
Lucille Johnson	\$1233
Paul Haydon	\$1233



[illegible]

Form No. 22. Irregular Attendance Report

## 39

[illegible][illegible]

Another type of attendance report that is collective and made by a machine is represented in Form No. 20. This is produced by an autograph recorder in which the employee registers his arrival and departure times and signs his name on the top, close to the time registration. This type of report, however, is not used for industrial enterprises on account of the preference for the individual type.

The hand method of attendance recording arranges its information as illustrated in Forms Nos. 21, 22, and 23. In Form No. 21, which is used in the brass check system, the employees' numbers are listed vertically, but their arriving and departing times are indicated horizontally by the timekeeper when the employee, on arrival, receives his brass check and when, on departure, he returns it. In Form No. 22, there is reported the numbers of those employees who have arrived late, departed before the regular stopping hour, or have worked overtime. In Form No. 23, which is used where the employees are scattered over a large area, the employees' numbers are also shown vertically and their presence or absence in the field is indicated horizontally. Two books are used alternately to record the attendance of employees during a month so as to allow a clerk in the Payroll Office to record the hours of attendance on the payroll.

#### **Verification of Attendance Records**

The verification of the attendance records may be made in various ways. One method is to require the foreman in each department to render a daily report of the number of hours each of his employees worked. This report is compared with the attendance records. The foreman's daily report, illustrated in Form No. 24, indicates the time each of his employees started and stopped work, and is submitted to the Payroll Office where it is compared with the attendance record which is shown in Form No. 25. The foreman's report illustrated in Form No. 26 covers a period of one week instead of one day and is also compared with the attendance record given in Form No. 27.

## ATTENDANCE RECORDS AND RECORDING

41

The National Sugar Refining Co of New Jersey Edgewater Refinery _____ 19__								
CHECK NO	DAY			NIGHT			HOURS	
	IN	DINNER	OUT	IN	DINNER	OUT		
76								
77								
78								
79								
80								
81								
82								
83								
84								
85								
86								
87								
88								
89								
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								
100								

(Courtesy of National Sugar Refining Co. of New Jersey)  
Form No. 24. Foreman's Daily Report



## LABOR COST RECORDS

A second method of verifying the attendance record is that used in the brass check system where the record of an employee's arrival and departure is made at the entrance. That record is

No. _____ WEEK ENDING _____							
NAME _____							
NATIONAL SUGAR REFINING CO., OF N.J.							
	SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
IN							
NOON							
OUT							
PM							
For Date Ending _____ Total Time _____							
Regular Pay							
Overtime Pay							
Total Pay							

(Courtesy of National Sugar Refining Co. of New Jersey)

Form No. 25. Attendance Record

compared with the timekeeper's report which is prepared daily as he visits each employee at his work. This latter report is illustrated in Form No. 28 and is used with Form No. 21.



## LABOR COST RECORDS

A third method of verifying the attendance record is that of comparing the total hours of attendance with the total hours shown by the performance records or job tickets. This comparison is possible only where the elapsed time taken by each worker on each job, order, or operation is determined and where

No. _____ Name _____ Week Ending _____ 19__							
Day	Morning		Afternoon		Night and Overtime		Total
	In	Out	In	Out	In	Out	
Regular Hours _____		}		Total Hours _____			
Overtime Hours _____							

Form No. 27. Attendance Report (Used with Form No. 26)

the beginning time on each job, order, or operation is the finishing time of the previous job, order, or operation. If a lapse of time occurs between each job, order, or operation and is not recorded, the comparison of the attendance with the performance records cannot be made. For example, if the regular working



hours are from 8 A.M. to 12 M. and from 1 P.M. to 5 P.M. and if the employee arrived and departed on time, the attendance record should indicate 8 hours of work. If the employee, however, starts a new job at 8 A.M., finishes it at 10:15 A.M., and does not begin work on a new order until 10:25 A.M., his performance record or job tickets for the day will not show 8 hours of work unless idle time is reported or unless the time of beginning the second order is stated as 10:15 A.M. This discrepancy in time as shown by the attendance and the performance records invalidates the comparison and will be further discussed under the verification of the latter records.

### Summary

Systems of attendance recording, a necessity wherever an employee receives a wage or bonus based on attendance, may be classified in more than one way. First, in accordance with the place where the record is made, the system may be centralized or decentralized. Second, the classification may be based on the method of making the record, i.e., whether it is done by hand or by machine. Under this classification, which contains in itself several sub-classifications, the hand method uses the worker or timekeeper to make manual recordings or utilizes a brass check, while the machine method makes use of various types of automatic, semi-automatic, or non-automatic devices.

The content and arrangement of data on attendance records, which may be individual or collective, vary with the method of recording. In accordance with the system of attendance recording used, the verification of these records is made by comparing them with the total number of hours shown on the foreman's reports, the timekeeper's forms, or the workers' own performance records.

## CHAPTER IV

### PERFORMANCE RECORDS AND RECORDING

#### Purpose of Performance Records

Whereas attendance records report the number of hours an employee is present at his work, the performance records show what he has accomplished during that time. They, therefore, indicate what the employer has received in return for the compensation which he has paid to the employee. Since those records are so kept as to indicate the number of units completed by each employee and the time he has consumed in making each unit or each part of the completed product, they enable the employer to determine the labor cost of the product.

#### Conditions Determining the Use of Performance Records

Although performance records may be made to serve various uses, the major considerations determining their use—and the manner of their use—are the following: (1) the method of cost-finding, (2) the wage system prevailing, (3) the method of distributing factory overhead, and (4) the need for an efficiency record of the workmen.

**METHOD OF COST-FINDING.**—In determining the cost of manufacturing a certain product, either one of two basic methods is usually employed. Under the one known as the order method of cost-finding, the costs are accumulated on the basis of a production order which authorizes the manufacturing departments to start the operations and specifies the quantity, size, and the kind of product. The second method, usually known as the process method, also involves the use of a production order (inasmuch as the factory officials must be authorized by the management to manufacture) and also specifies the quantity, size, and kind of

product to be made, but, under it, costs are accumulated according to manufacturing processes or operations, rather than in terms of the product manufactured.

If the order method of cost-finding is used and if there are several production orders passing through the manufacturing department at the same time, it will be necessary to know the time spent and the quantity produced by each employee on each production order on which he has worked. It is the function of the performance record to furnish this information. Even if there is only one production order on which all the manufacturing departments are working and if the operations in each department are numerous, performance records must be used to show the labor cost of each operation.

On the other hand, where the process method of cost-finding is used, performance records for employees may, under certain conditions, be dispensed with. If each department performs just one operation or process and if all employees in each department are paid on a time basis, in order to find the labor cost of each unit of product it is only necessary to determine, at any period of time, the quantity produced by each department during that period, the quantity still in the process of manufacture, and the total labor cost of that department for the same time. The latter cost can be ascertained from the payrolls.

**WAGE SYSTEM PREVAILING.**—Whether the process method or order method of cost-finding is used, individual performance records will always be needed if employees are paid on a piece basis. It will then be necessary to know the quantity produced by an employee in order to determine his compensation. Furthermore, such records will be required for each employee or for a group of employees—in the case of a group bonus system—if, in addition to their day or hourly rate, the workers are paid a bonus or premium for completing a task in time less than that set as a basis by the management.

**METHOD OF DISTRIBUTING FACTORY OVERHEAD.**—It will be apparent, also, that the use of performance records for employees

may be dependent upon the manner in which the factory overhead expenses are distributed to the cost of the product. If such overhead expenses are charged to the product cost according to the hours directly applied, by labor or by machines, in the product's manufacture, performance records must be used to provide this information, inasmuch as the number of such hours must be known.

### **Content of Performance Records**

The information which should be provided by performance records depends upon several considerations. In the first place, their informational content varies according to the method of cost-finding. If the process method of determining costs is followed under conditions which require performance records, these must indicate the quantity of product turned out or the time consumed by each process. If the order method of cost-finding is employed, the performance records must show the particular production order number worked on by each employee, the operation performed, and the time taken or the quantity produced.

Another consideration upon which the content of the performance records depends is the wage system. If the workers are paid on a piece basis, the quantity produced by each employee during a specific period must be shown. On the other hand, if they are paid on a time basis, the performance record must indicate the time consumed by the worker in performing the operation. Moreover, if a bonus or premium is paid for the time saved in accomplishing a task, both the time in which the operation was performed and that set for the task by the management must be reported on the performance record.

As pointed out above, a third consideration is the method of distributing factory expenses. If those expenses are distributed according to the hours directly applied to the manufacture of the product either by labor or by machines, that information must be furnished by the performance records.

Furthermore, if the management wishes to facilitate the preparation of the payroll, it may have its performance records pro-



vide the necessary data. For example, an individual's performance record that shows his accomplishments during a weekly period may enable the department preparing the weekly payroll to finish its task sooner than if each performance report had covered only a day's work.

In short, the content of performance records depends upon the information required by the management. The method of determining costs, the type of wage system, the manner in which the factory expenses are distributed to the cost of the product, and the time in which the payroll is to be prepared make it necessary for the management to be supplied with certain data. The form of performance records must, therefore, be so devised as to provide these data for the management.

In some particulars the content of performance records is usually much the same for all enterprises, while in other particulars it differs widely. The name and identification number of the employee, the date of and the period covered by the report, and its approval by an official are common items on all such reports. The informational data which differ with each enterprise are those which are dependent upon the considerations discussed above. If the order method of cost-finding is used, the performance record will indicate the order or job number, the name and number of the worker's operation, the time taken to complete the operation, and the quantity produced. In addition, there should be indicated the name and number of the part to be manufactured, if the product is made in parts. However, if the process method of cost finding is applied, the name of the process, instead of the order number, is shown.

If the factory expenses are distributed to the cost of the product according to the number of hours consumed by the machines in its manufacture, the machine name and number must also be reported. The time consumed by the machine in completing its task need not be shown, inasmuch as that is the same as the worker's. If wages are paid according to the quantity of product turned out free from defects, the performance reports

must indicate not only the quantity called for by the production order but also that which, after inspection, is found acceptable, and that which is rejected because of defective workmanship or materials. If the worker is paid a premium based on the time saved in completing a task in less than the standard time, the latter item should also be indicated. In the event that, for the period covered by the performance report, the management desires to know the earnings of both the worker and the machine upon which he has worked, both the operator's and the machine's earning rates and total earnings will have to be given.

TIME TICKET			
JOB NO.:	EMPLOYEE'S NO.:		
	STOP	ELAPSED TIME	EMPLOYEE'S NAME
	START		
	RATE	PER HOUR	AMOUNT
DESCRIPTION OF WORK:			
NAME OF PIECE:			
SHOP CLERK'S O.K.:		FOREMAN:	

Form No. 29. Performance Record (Individual for Employee and Order)

### Form of Performance Records

The form of performance records varies. One form is that which is individual for the worker and for each order, job, process, or operation. A separate report is prepared in this case for each job, order, process, or operation worked on by the employee. For example, if a worker has been occupied on four orders, jobs, processes, or operations during a day or some other period of time, there will be four performance reports for this worker. This form is illustrated in Form No. 29.

A second form of performance record is that which is individual for the employee but cumulative for the work done by the



latter during a given period of time. This form is illustrated in Form No. 30. A report of this type is prepared for each employee for each day and shows the time spent and the quantity produced by him on each order, job, process, or operation. At the end of the payroll period there will be one report for each worker for each day of that period. However, reports of this type may be made to cover the work done during the payroll period. In the

<b>THE BEERY CORPORATION</b>  _____ Day's  Name _____  No. _____   For Week Ending _____	ARTICLE NO					
	MONDAY					
	TUESDAY					
	WEDNESDAY					
	THURSDAY					
	FRIDAY					
	SATURDAY					
	TOTAL					
	RATE					
	AMOUNT					
<div style="text-align: center;">TOTAL AMOUNT</div> <div style="text-align: center;">RECEIVED PAYMENT</div> <div style="display: flex; justify-content: space-between;"> <div>APPROVED BY _____</div> <div>EMPLOYEE MUST SIGN HERE _____</div> </div>						

Form No. 31. Worker's Weekly Individual Performance Record

latter instance, there will be one report for each worker at the end of each payroll period. This is illustrated in Form No. 31.

A third form of performance record is that which is individual for each order, job, process, or operation, but cumulative for the operators. A report of this type is prepared for each order, job, process, or operation and indicates the order number, quantity, description, size, and style of the article to be produced in addition to the name and number of each employee who worked on that particular order, job, process, or operation. This report is used wherever it is desirable to accumulate the labor cost of each order, job, process, or operation in one place. It is illustrated in Form No. 32.

Form No. 32. Performance Record (Individual for Order)

TIME SHEET																
OPERATION	PRODUCT NUMBER	AMOUNT	HOURS			TIME		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Hours	Hour Rate	Amount
			Overtime at 3/2 Rate Per Hour	Total	Gate Record	In	Out									
	Monday															
	Tuesday															
	Wednesday															
	Thursday															
	Friday															
	Saturday															
	Pieces															
	Piece Rate															
	Amount															
ASSISTANTS										SUMMARY						
Check No.	Name	Hrs.	%	Am't.	Hrs	Rate	Am't	Average Rate	Amount							

Form No. 33. Performance Record (Cumulative for Employees and Orders)

A fourth type of performance record is one that is cumulative for a group of operators and for the work done by them. This form is illustrated in Form No. 33 and accounts for the time spent or the quantity produced by a group of workers during a definite period of time. It indicates the names and numbers of the workers who comprise the group and the order number or operation worked on.

ADVANTAGES AND DISADVANTAGES OF EACH TYPE.—Each of the above types has its advantages and disadvantages. The first type mentioned above, that which is individual for the worker and for the order, job, process, or operation upon which the employee was engaged, facilitates the sorting of records for the purpose of determining the labor cost of the product and the worker's wages. Reports of the first type can be easily arranged according to order, job, process, or operation number to find the labor cost and then according to employee number for the payroll. They can then be re-sorted according to order, job, process, or operation number and attached to the production order or cost sheet to which the total labor cost is posted. Where tabulating equipment is used, the report may be a tabulating punched card which is known as a dual card and is divided into two sections, one of which requires the information to be written in and the second permits the same information to be punched in by machine. These cards are then ready to be sorted and tabulated by the machine.

The first type of report has one principal disadvantage. Where operations are very short, the use of such a type necessitates a great number of reports for each order and thereby may impede rapid sorting. The loss of a few reports belonging to a particular order, job, process, or operation may also occur and thus delay the computation of total costs.

The second type of performance record, that which is individual for the employee but cumulative for the order, job, process, or operation, has the advantage of accounting, in one place, for an operator's performance during a definite period. If a report

of this kind shows the work of an employee for the entire payroll period and if his rate of pay is given, this form may be used as an individual payroll record and thereby facilitate the preparation of the payroll for the entire working force. The disadvantage of this form arises when the labor cost of the order, job, process, or operation is to be calculated. For each report must be analyzed for the cost of each particular order, job, process, or operation and a summary thereof be made accordingly. This work may be expedited by the use of tabulating equipment. The information on each operator's report is transferred to a master tabulating card which is punched for each order, job, process, or operation. The master cards are then sorted by cost divisions and are summarized. Where tabulating equipment is not used, the data must be transferred by hand, in detail, to the production order or cost sheet which summarizes the labor cost. If the production order or cost sheet is not used as a means of summarizing, each performance record must pass through the sorting process several times in order to secure the necessary total labor cost of the order, job, process, or operation. The total labor cost is then posted to the cost sheet.

The advantage of the performance record which is individual for each order, job, process, or operation is that it accumulates in one place the total labor cost of the order, job, process, or operation. This report, however, must be analyzed to secure the time and earnings of each employee. To overcome this disadvantage, a separate performance record may be prepared for each operator. There will, then, be two sets of reports: one for the order, job, process, or operation and another for the operator. The latter type of report is frequently used in assembly work, such as in industries in which the products pass through the same operations in definite quantities or lots. For example, after material has been cut for a definite number of garments, it is bundled up and sent to the sewing department where the same operations are performed, without any regard for style, on each bundle of garments. In this instance, a production order with



coupons is attached to the bundle and contains a list of the operations to be performed. Each coupon represents an operation. As each operation is completed by an employee, if he is a day worker, he inserts his number, time started, and time finished on the production order, opposite the name of the operation, and clips the coupon on which the operation is listed. If the employee is paid on a piece basis, he merely clips the coupon which represents a uniform quantity produced. The coupons are kept in an envelope by the worker or pasted in his book. In this manner, the production order accumulates the total labor cost, and the wages due each operator can easily be ascertained.

The performance record that is cumulative for a group of operators and for a number of orders, jobs, processes, or operations is of use wherever it is desired to secure the earnings of a gang or crew of workers and the total labor cost of its work for a definite period of time. The data may be so arranged on the record that they will account for the performance of each member of the group, indicate the total amount earned by each for the period, and distribute, by totals, the cost to the orders, jobs, processes, or operations. An illustration of this form appears in Form No. 33.

#### Period Covered by Reports

Where the performance records are individual for both the operator and the order, job, process, or operation and where the tasks are so short in duration that more than one order, job, process, or operation are completed within a day, the question as to the period of time to be covered by the performance record does not arise. For there will be a separate performance record for each order, job, process, or operation worked on during the day. If, however, the tasks to be performed by the operator on each order, job, process, or operation require more than a day, the period of time to be covered by the performance record becomes important with this type of report, as in the case of the other three types.

No definite rule can be established concerning the period of time, inasmuch as the operating conditions prevailing must be considered. Where the process method of cost-finding is used and the employee performs the same operation each day, a record covering a pay period can be used just as well as a daily record, unless the management desires to know, on the following day, the production of each employee and of each department for each day. Moreover, a record that covers a pay period may constitute an individual payroll record for each employee, and, as mentioned above, it will thus show in one place the consideration given by the worker for the total pay received. The use of one record for the entire pay period, however, prevents the daily preparation of the payroll and so concentrates the payroll work within a few days.

Where the order method of cost-finding is applied and the operations extend over a long period of time, a weekly record may be useful. In the construction industry, where, for example, a contract for a specific job is undertaken, each class of work usually takes considerably longer than a day and, therefore, permits the use of weekly performance records.

In addition to the method of cost-finding applied and to the length of the period of the operation, the time of preparing the payroll must also be considered in determining the period to be accounted for by the report. If the performance record shows the employee's work for a day or less, the payroll can be prepared from day to day. On the other hand, if the period of time shown by the record is the payroll period, the preparation of the payroll, as stated above, must be completed in the interval between the end of the payroll period and the date of payment—a consideration which is important where the number of employees is large and where the management is required or desires to pay off its employees a short time after the end of the payroll period.

#### **Manner of Preparation**

It is evident from the above discussion concerning the content of the performance records that the information rendered may

be separated into four divisions. The first division comprises the data dealing with the identification of the employee whose report it is. The second concerns the identification of the product—i.e., the order number and the job, process, or operation name and number. The third consists of the machine name and number, if a machine is used. The fourth part provides the information for determining the worker's wage and for distributing that labor cost to the product; this part sets forth the time taken by the worker in performing his task and the quantity of product he has turned out.

All of the data to be provided by these divisions may be recorded by the worker himself. This practice is usually followed in the repair or maintenance work of a factory. In the operations that are involved in producing the commodity or service sold by the business, however, expedience does not, for several reasons, permit the worker to report all the information. In the first place, the writing of a performance record by a worker himself would interfere with his work. Secondly, most workers do not appreciate the importance of the facts called for in the report. Thirdly, the worker may be illiterate and unable to write. For these reasons it would be better to have other individuals write it. Frequently, however, the insertion of the information on the performance record is divided between two or more persons. The first division, that which indicates the identification of the employee, may be recorded by an addressing machine operator or by the timekeeper. The second division, that which consists of the order, job, process number, and the operation name and number, may be inserted entirely by a timekeeper. A variation of this procedure is to require the order, job, or process number to be reported by the timekeeper and the operation name and number by the worker himself. To avoid illegible writing and to insure an accurate description of the operation on the part of the employee, the names of the operations through which the product passes are often printed on the performance record, and the particular operations performed by the employee are checked

CLOCK NO.		DAY WORK			
NAME					TOTAL PIECES
MACHINE USED No.		PART OR S.O. No.		PRDS	PCS
X	OPERATION				
	ROUGHING				
	BREAK DOWN OR ROLLING				
	FINISH FORGE				
	TWIST				
	SETTING				
	DRAW HOPS				
	UPSET FLANGE				
	UPSET FARGE				
	CUT TONGS				
	UPSET STOCK				
	DRAW TONGS				
	DRAW SHORT ENDS				
	DRAW LONG ENDS				
	STRETCH				
	DRAW STOCK				
	DIES				
	TRY OUT				
<input type="checkbox"/> OPERATOR <input type="checkbox"/> HELPER				<input type="checkbox"/> FIRST <input type="checkbox"/> SECOND       } HEATER	HOURS
RATE _____ TOTAL LABOR					
BURDEN RATE		BURDEN AMT.		BURDEN HRS	
DLS.	CTS	DOLLARS	CENTS		
BURDEN CENTRE					
THIS END UP AND FROM STAMPING					

Form No. 34. Performance Record (Individual for Employee and Order)

by him. This form of performance record is illustrated in Form No. 34.

The third division of the information, that which deals with the machine name and number, may be indicated by the timekeeper or an employee other than the one whose performance is being reported.

The fourth division of the data on the performance record, that which contains the record of the time taken in completing the task and the quantity produced, may be written in by the worker himself or by a special timekeeper with or without the aid of a mechanical device. If the worker is permitted to report his time, he may do so by apportioning, without the aid of a clock device of any sort, the number of hours of his working day over the orders or operations which he performed during the day. This method, of course, has many disadvantages, among which are the objections, mentioned above, to the worker's preparing his own report. The most important of the disadvantages is that frequently the time spent on each operation is not reported accurately. This is especially true where the orders or jobs worked on or the operations performed are numerous and where, consequently, the time reported represents little more than a guess on the part of the employee.

The objection to the worker's apportioning his time may be removed by setting up a clock that is always visible to him and by requiring him to report the beginning and finishing times of each operation. He may be assisted in doing this by dividing the daily work period into intervals of uniform length, such as six or ten or fifteen minutes, and printing these on the performance record. The operator checks off the starting and finishing times or draws a straight line extending from the beginning time on one operation to the beginning time of the following operation. This form of performance record is illustrated in Form No. 35. An objection to this method of reporting is that the exact time is not shown. If an employee starts or completes a task at a time which does not coincide with that printed on the record, he



Employee's No. _____ Employee's Name <div style="text-align: center;"> <b>LYON &amp; KIRBY</b>          Incorporated       </div>	Date _____ Job No. _____ Rate per Hour _____ No. of Hours _____ Labor Cost _____ Part No. _____	<h1 style="font-size: 4em; margin: 0;">KIRBY</h1> <h2 style="font-size: 2em; margin: 0;">CORPORATED</h2>																																													
Time Recorder and Calculator, Time Card <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>7<sup>30</sup></td><td>7<sup>45</sup></td><td>8<sup>00</sup></td><td>8<sup>15</sup></td><td>8<sup>30</sup></td><td>8<sup>45</sup></td><td>9<sup>00</sup></td><td>9<sup>15</sup></td><td>9<sup>30</sup></td></tr> <tr> <td>9<sup>45</sup></td><td>10<sup>00</sup></td><td>10<sup>15</sup></td><td>10<sup>30</sup></td><td>10<sup>45</sup></td><td>11<sup>00</sup></td><td>11<sup>15</sup></td><td>11<sup>30</sup></td><td></td></tr> <tr> <td>11<sup>45</sup></td><td>12<sup>00</sup></td><td>12<sup>15</sup></td><td>12<sup>30</sup></td><td>12<sup>45</sup></td><td>1<sup>00</sup></td><td>1<sup>15</sup></td><td>1<sup>30</sup></td><td>1<sup>45</sup></td></tr> <tr> <td>2<sup>00</sup></td><td>2<sup>15</sup></td><td>2<sup>30</sup></td><td>2<sup>45</sup></td><td>3<sup>00</sup></td><td>3<sup>15</sup></td><td>3<sup>30</sup></td><td>3<sup>45</sup></td><td>4<sup>00</sup></td></tr> <tr> <td>4<sup>15</sup></td><td>4<sup>30</sup></td><td>4<sup>45</sup></td><td>5<sup>00</sup></td><td>5<sup>15</sup></td><td>5<sup>30</sup></td><td>5<sup>45</sup></td><td>6<sup>00</sup></td><td>6<sup>15</sup></td></tr> </table>		7 <sup>30</sup>	7 <sup>45</sup>	8 <sup>00</sup>	8 <sup>15</sup>	8 <sup>30</sup>	8 <sup>45</sup>	9 <sup>00</sup>	9 <sup>15</sup>	9 <sup>30</sup>	9 <sup>45</sup>	10 <sup>00</sup>	10 <sup>15</sup>	10 <sup>30</sup>	10 <sup>45</sup>	11 <sup>00</sup>	11 <sup>15</sup>	11 <sup>30</sup>		11 <sup>45</sup>	12 <sup>00</sup>	12 <sup>15</sup>	12 <sup>30</sup>	12 <sup>45</sup>	1 <sup>00</sup>	1 <sup>15</sup>	1 <sup>30</sup>	1 <sup>45</sup>	2 <sup>00</sup>	2 <sup>15</sup>	2 <sup>30</sup>	2 <sup>45</sup>	3 <sup>00</sup>	3 <sup>15</sup>	3 <sup>30</sup>	3 <sup>45</sup>	4 <sup>00</sup>	4 <sup>15</sup>	4 <sup>30</sup>	4 <sup>45</sup>	5 <sup>00</sup>	5 <sup>15</sup>	5 <sup>30</sup>	5 <sup>45</sup>	6 <sup>00</sup>	6 <sup>15</sup>	Rate per Hour: $\$$ 0.42
7 <sup>30</sup>	7 <sup>45</sup>	8 <sup>00</sup>	8 <sup>15</sup>	8 <sup>30</sup>	8 <sup>45</sup>	9 <sup>00</sup>	9 <sup>15</sup>	9 <sup>30</sup>																																							
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### Time Recorder and Calculator: Master Card

0.105	0.21	0.315	0.42	0.525	0.63	0.735	0.84
0.945	1.05	1.155	1.26	1.365	1.47	1.575	1.68
1.785	1.89	2.00	2.10	2.205	2.31	2.415	2.52
2.625	2.73	2.835	2.94	3.045	3.15	3.255	3.36
3.465	3.57	3.675	3.78	3.885	3.99	4.095	4.20

Form No. 36A. Individual Performance Record

Form No. 36B. Master Card (Used with Form No. 36A)

working hours are printed thereon and are divided into intervals of uniform length. On such a record, the timekeeper may merely punch beginning and ending times and the difference between the two will represent the elapsed time required to perform the operation. To reduce the clerical work in computing the labor cost, master sheets or wage tables may be used. These contain the wage cost, at different rates, of the various units of elapsed periods, one sheet being used for each wage rate. The computation of the elapsed time and the wage cost necessitates the placing of the service or performance record on the wage table which is applicable to the employee's rate. The record is placed in such a position that the punched hole which designates the starting time is laid on a definite spot. The period of time and its cost then appears through the second punched hole which indicates the finishing time.

A modification of the above form of performance record is the comptocard. On one side of the card, the working hours are printed vertically and the intervals into which each working hour is divided are placed horizontally. On the other side, appear the numbers of the elapsed intervals. The punching of the starting and finishing times on the card results in the punching of the numbers of the intervals that are represented by the two instants of time. To determine the elapsed time, one must find the difference between the two numbered intervals and multiply the result by the period of time represented by an interval. For example, if the working day extends from 8:00 A.M. to 12 M. and from 1:00 to 5:00 P.M. and if the hours are divided into fifteen minute intervals, the comptocard will show this division. On the other side of the card, the interval from 8:00 A.M. to 8:15 A.M. is numbered "1" which is printed back of the 8:15— and so on for the remaining intervals. If an employee begins an operation at 8:00 A.M. and finishes it at 8:15 A.M., these instants of time will be punched. On the back of the card, the numbers 0 and 1 will be punched thereby. The number of intervals taken in completing the task is the difference between 1 and



KEEP THIS SIDE UP				
Employee. Name	No.	8	00	15
			30	45
Department Name	No.	9	00	15
			30	45
Order No	Part No.	10	00	15
			30	45
Operation Name	No.	11	00	15
			30	45
Quality	Size	Style	1	00
				30
Description:		2	00	15
			30	45
		3	00	15
			30	45
Approved by	Date	4	00	15
			30	45
Checked by	Date	5	00	45
			30	45

KEEP THIS SIDE UP	
1	0
3	2
5	4
7	6
9	8
11	10
13	12
15	14
17	16
19	18
21	20
23	22
25	24
27	26
29	28
31	30
33	32
35	34

"Hour-Minute" Record Translated into Numbered Fifteen Minute Intervals Here

o. The elapsed time, therefore, equals 1 multiplied by 15 minutes. This form of card is illustrated in Form No. 37. The number of intervals—or the elapsed time—multiplied by the particular employee's wage rate per interval—or other period—gives the labor cost of the operation or job and, if the employee is paid on a working time basis, the wages due the employee.

Instead of recording, by hand or with the aid of a punch, the starting and ending times on the performance report, these

DAILY COST CARD									
NO. 8020		NAME <i>Joe Purcell</i>		DEPT <i>Woodworking</i>					
TIME RECORD		ELAPSED TIME	RATE	COST	PIECES	ORDER NO.	OPERATION		
8	MAR 27 5 00	F	1.36	.56					
7	MAR 27 3 24	S			90	75	1124	<i>Polishing</i>	
6	MAR 27 3 24	F	2.14	.56	125	110	3206	<i>Bowl Sides</i>	
5	MAR 27 1 10	S							
4	MAR 27 12 10	F	3.05	.56	172	244	1816	<i>Kroove</i>	
3	MAR 27 9 05	S							
2	MAR 27 9 05	F	1.05	.56	61	69	986	<i>Face Ends</i>	
1	MAR 27 8 00	S							
TOTAL HOURS.....8.....		RATE......56.....		MATERIALS.....5.04		LABOR.....4.48		TOTAL CHARGE.....9.52	

(Courtesy of International Business Machines Corporation)

Form No. 38. Performance Record with Time Registered in Hours and Minutes

may be stamped in by mechanical devices. Such machines are of three main types—classified according to the imprint which they make. One type prints on one line the date, hour, and minute (or fraction of an hour) of the beginning and ending times. This is illustrated in Form No. 38. A second type shows the time by a clock dial and the third cuts the performance record at the beginning and stopping times.

Machines making the one line imprint either calculate the elapsed time taken on an operation or merely show the starting and finishing times. The instants of time may be expressed either in hours and minutes, as illustrated in Form No. 38, or

hours and decimal parts thereof, as shown in Form No. 39. Another method of expressing the beginning and ending times is to divide the working period, either the day or the total pay period, into units which are of uniform length and are consecutively numbered. The difference between the number of the unit when the operation is begun and that when it is finished represents the elapsed time. The use of the latter method of numbering the working period divisions or of the method of showing the hours

PRODUCTIVE DAY WORK			
Detail No. <u>214.2</u>		Lot No. <u>587</u>	
Article <u>Upper Bracket</u>		No. of Pieces in lot <u>100</u>	
Name <u>Edward Spencer</u>	Stop	MAR 1 11.2	
Mach No. <u>425</u>	Start	MAR 1 7.0	
Operation <u>Milling Sides</u>	Time	<u>4.2</u>	
<u>for Connecting Rod</u>	Rate	<u>.70</u>	
Quantity Finished <u>100</u>	Amount	<u>29.4</u>	
Deduct Spoiled <u>2</u>			
Deduct Defective <u>1</u>		Foreman <u>H. Norton</u>	

(Courtesy of International Business Machines Corporation)

Form No. 39. Performance Record with Time Registered in Hours and Decimal Parts Thereof

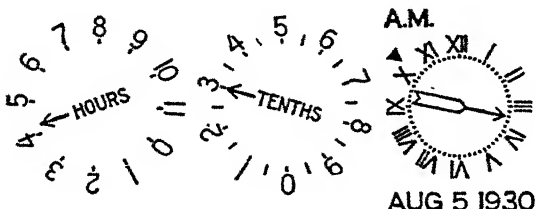
and decimal parts thereof in expressing time has an advantage in that it facilitates the calculation of the elapsed time.

It must here be noted that the attendance clocks producing the card type of report may also be used in preparing the performance record inasmuch as they stamp the time on one line and express it in terms of hours and minutes.

Those machines which make the one line imprint and calculate the elapsed time may indicate the beginning and ending times in terms of hours and fractions thereof only or in terms of money values as well. On account of its operation, each employee must use a separate recorder. This, however, is not the case with the machines that do not calculate elapsed time; any number of employees may use the same machine.

The second type of time recorders, showing the time by clock dials, is illustrated in Form No. 40. When a worker is about

to begin an operation, he inserts his performance record, face downward, in the recording machine. By pressing the right-hand lever, the machine stamps the date of the working day and an impression of a clock face in which the arrow points to the minutes and the wedge-shaped form to the hour when the work is started. At the same time, two other dials are imprinted on the card. When the worker has completed his task, he again places the time card, face downward, in the machine but now

			ORDER NO. 1782
			PART NO. 64
			OPER. NO. 12
CHECK NO. 42	NAME J. White		NO. FINISHED 1700
TIME 4.3	RATE .60	WAGES 2.58	MACH. NO. 30
PART NAME Double Case			
OPERATION NAME Drilling			O. K. H.S.
DAILY TIME CARD			

(Courtesy of Calculagraph Co.)  
Form No. 40. Performance Record with Time Indicated by Clock Dials  
(Calculagraph Elapsed Time Card Showing Starting Time—  
10:17 A.M., August 5—and Elapsed Time—4.3 Hours)

operates the left-hand lever. The elapsed time is then recorded by means of two arrows in the two dials which were stamped on the card when, at the beginning of his work, the employee first inserted his card. One arrow indicates the number of hours and the other the number of minutes (or decimal part of the hour) of which the elapsed time consists. A recorder of this type can be used by any number of employees but is usually limited to performance records which are individual for both the worker and the order, job, process, or operation, inasmuch as the imprint consumes more space than do the one line recorders.

## LABOR COST RECORDS

Time		Working Hours		Department	
0.00	8:00 A.M. - 12:00 N.			I.R. HAYES & CO., INC.	
0.25				Department _____	
0.50				Order No. _____	
0.75				Operation { No. _____	
1.00				{ Name _____	
1.25				Employee's { No. _____	
1.50				{ Name _____	
1.75				Machine No. _____	
2.00				Remarks: _____	
2.25				_____	
2.50				_____	
2.75				_____	
3.00				_____	
3.25				_____	
3.50				_____	
3.75				_____	
4.00				_____	
4.25				_____	
4.50				_____	
4.75				_____	
5.00				_____	
5.25				_____	
5.50				_____	
5.75				_____	
6.00				_____	
6.25				_____	
6.50				_____	
6.75				_____	
7.00				_____	
7.25				_____	
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7.75				_____	
8.00				_____	
8.25				_____	
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10.25				_____	
10.50				_____	
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11.00				_____	
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13.00				_____	
13.25				_____	
13.50				_____	
13.75				_____	
14.00				_____	
14.25				_____	
14.50				_____	
14.75				_____	
15.00				_____	
15.25				_____	
15.50				_____	

	Hours	Rate	Amount
Employee			
Machine			
Total			

Form No. 41. Performance Record with Beginning and Ending Times Cut on the Edge

The third type of recorder, that which cuts the edge of the card for the starting and finishing times, necessitates the use of a performance card on which there are two time scales. One scale indicates the hour and minute that an operation is begun and finished. The second scale shows the daily working hours divided into uniform intervals. Both scales are punched simultaneously. To find the elapsed time of a task, the arithmetical difference between the two intervals punched must be found. The record made by this type of time device is illustrated in Form No. 41. The first notch from the bottom, in the illustrated form, shows that an operation was started at 10:00 A.M., and the second indicates that it was completed at 2:45 P.M. The elapsed time in this case is the difference between 13.50 hours and 9.75 hours—or 3 hours and 45 minutes.

#### Methods and Locations of Time Recording and Reporting Devices

The mechanical devices used in the recording of the time on the performance records may, in the same manner as the devices used in recording attendance, be decentralized or centralized. Under a decentralized system, the mechanical devices are set up in each department. Under a centralized system, the mechanical devices used for the recording of the time for the whole factory are stationed in one place to which the beginning and ending times of a task performed by an employee are reported.

The advantages of a centralized system of performance recording are the same as those of a centralized system of attendance recording. In addition, the system facilitates the location of any order or job in the plant. All the time records are kept in one place to which one may refer if it is desired to know in which department of the factory a certain order is. The disadvantages, however, are the same as those connected with a centralized system of attendance recording; it also has the further disadvantage that there may be a loss of time in communicating with the central office.

The most important prerequisite for the successful operation of a centralized system of performance recording is a good means of communication. This may consist of telephones, annunciators, writing instruments such as the telautograph, and the device of the cash carrier system.

The telephone system operates in the following manner. Each department of the factory or shop is connected with the centralized timekeeping room. Here a timekeeper, wearing a telephone receiver and transmitter, sits in front of a desk that is divided into compartments, one for each department of the factory or shop. Each departmental compartment is also divided into two sections. One section contains guide cards upon which the departmental employees' identification numbers appear. Behind these guide cards are filed the production orders upon which the employees of the department are working. The second section contains the orders which are to be placed in operation as soon as those in the first section are completed. As soon as an operator completes his task on a specific production order, his foreman gives him his next assignment and notes, on the previous order, the time at which it is completed. The foreman communicates immediately with the timekeeper and reports the number of the order assigned and the completion of the old one. The timekeeper then takes the order on which the operator was working, from behind the worker's guide card, notes thereon the finishing time, and places it in a separate box which contains all finished orders. This system requires a duplicate set of factory orders—one for the foreman and another for the timekeeper—and necessitates the careful transmission of all numbers. To eliminate errors in transmission, the foreman may be required to report the order number and the timekeeper to state the number of pieces to be made—a procedure that may identify the order.

The annunciator system of time reporting consists of a large annunciator board which is set up in the central timekeeping room and upon which the identification numbers of all factory employees appear. As soon as an operator completes his task, he

presses a push button which is near his work bench and which, by electrical contact, moves the indicator near the operator's number on the annunciator and thereby calls the attention of the timekeeper to the fact that the operator has completed his task. The timekeeper then makes a written memorandum of the finishing time and sends a messenger to the operator for all information concerning the order or task completed. The chief characteristic of this system is the need for messenger service.

The third form of centralized time reporting is one which makes use of the telautograph system. This system is one in which handwritten messages are transmitted instantaneously to and from any number of stations in a definite area. It consists of three instruments: one transmits and receives messages, a second receives messages only, and the third consists of switch keys by means of which the sender of the message may select the receiving stations that are to receive it. If the foremen in the various departments and the timekeeper in the central timekeeping room are to send messages to each other, a transmitting instrument will be necessary in each department as well as in the timekeeping room. When an operator finishes his task, he informs his foreman who writes all information concerning the completed job or operation and the finishing time on a roll of paper attached to the machine. This message is simultaneously transmitted to a similar machine in the timekeeping office where the report is transferred to the performance record. The timekeeper then writes his message to the foreman concerning the worker's new task, and this is then transmitted automatically to the telautograph located in the foreman's department.

The fourth system of centralized time reporting is that in which use is made of cash carriers and pneumatic tubes for sending the carriers. The carriers are similar to those used in department stores for sending cash to the cashier's department. As soon as an operator completes his task, the performance record is placed in the cash carrier which brings it to the central timekeeping room. Here the time is stamped on the record. This



system is satisfactory where the time lost in sending the record is not very important.

### **Determination of Quantities**

Although the time factor is an important item on the performance record and the methods of time reporting and recording are usually of prime consequence, the quantities produced by an operator represent an item on the performance record that is usually of very considerable significance. Besides, quantities produced must always be known when an operator is being paid by the piece or when his wage, rated on a time basis, also includes a premium or bonus for producing quantities in excess of the amount established for the time taken.

The determination of the quantities produced by a worker may be made in either of two ways. One is to have an actual count made by an inspector. The other is made by means of mechanical devices which, however, are not as numerous as those for time recording. A device of this sort is known as a counter and is attached to the operating machine in such a manner as will allow the feed mechanism of the machine to register the units as they are produced. The counters are then read by an inspector or by the foreman who notes, on the operator's performance record, the quantity produced.

### **Verification of the Performance Records**

After the performance records have been completely filled out, their information must be verified before it can be analyzed and summarized. The verification consists of testing the accuracy of the time, quantities, rates, extensions, and amounts earned. Where a careful attendance record of each employee is maintained, a worker's total elapsed time on all orders, jobs, or operations during a definite period of time, such as a day or a week, must be equal to the total number of hours he is present in the plant or on the job, for the same period, as shown by his attendance records. The comparison cannot be made, however,

if the time lost by an employee in passing from one job to another is not included in the new job undertaken or is not reported by means of an idle time report. In this event, the actual elapsed time on a job, order, or operation, as shown by each performance record, may be compared with the standard time established by the management for the task.

If there are no attendance records and the performance records do not indicate the time begun, the time ended, and the elapsed time, as often is the case with the records of workers paid by the piece, the verification of quantities is necessary. This is done by an inspector who makes an actual count of the quantity produced by the worker immediately after the worker has reported his count. Another method which may be used during the working hours is that of having each worker verify the count of the preceding worker from whom he receives the quantity. A third method of verifying quantities is that of comparing the total of the quantities stated on the performance records of all workers in one department with the totals on the receiving reports of the succeeding department. This procedure is only possible where the entire output of one department passes into the next department for processing there.

If a worker's and a machine's rates of earnings are written on the performance record after the worker has seen the latter record, they may be verified by comparing them with the rate cards kept for all employees or for all operating machines. However, if the rates are on the record when the worker receives it, the latter will then call the attention of his foreman or his time-keeper to any inaccuracies.

The verification of the extensions may be done by a person other than the one who originally made them when the total amount earned by the worker or by the machine is verified.

The method of verifying the amount earned by a worker depends upon the wage system in use. If all the workers whose performance records are being verified are paid an hourly rate, the total amount earned by a worker during a period, such as a

day or a week, as shown by his performance reports, must be equal to an amount represented by the product of the total hours, indicated by his attendance reports for the same period, multiplied by his hourly rate. As stated above, this comparison may be made only where the elapsed time on each job, order, or operation includes the time which the worker may have spent in waiting for it. On the other hand, if a worker is paid a premium or bonus for efficient work, in addition to his hourly rate, such a comparison is not possible. Moreover, if the performance record is used to provide information for cost purposes only and if the labor cost of the task or operation completed by a worker is obtained by multiplying the elapsed time by an average or standard labor rate, the total amount earned for a period by a worker, as indicated by his performance record, may not correspond with that shown by his attendance record because the rates may differ. In such instances, the amount must be checked by a person other than the one who originally determined it.

In addition to verifying the elapsed time, quantities, rates, extensions, and amounts stated on the performance reports, these reports must be carefully examined to see that they have been prepared properly and that they contain the approval of the foreman or some other official. This examination may be made by the timekeepers of the various departments or by a special clerk in the Accounting Department.

#### **Summarization of the Performance Records**

After the performance records have been verified, the summarization of the information contained by them may then be made. The purposes of summarizing are: (1) to determine the labor cost of producing a certain order or job; and (2) if the payroll depends upon these records for its data, to find the amount due the worker.

All performance records are first sorted. If they are individual for both the worker and the order, job, process, or operation, they may first be arranged according to the identification

numbers of the employees to determine the wages due each worker. All reports of an operator, for a definite period of time, will then be together. After each worker's wage has been determined, the performance reports are rearranged, according to order, job, process, or operation number, to determine its labor cost. If the reports are individual for the worker only, they are sorted, according to the worker's number, to find his wage. They are then analyzed to determine the labor cost of the order or operation. If, however, the reports are individual for the order or job so that each shows the total labor cost, it is necessary to analyze them in order to ascertain a worker's earnings for the

LABOR											
DATE	RATE	DEPT	PLAN NO	ORDER NO	PART NO OR SECT	OPER NO OR ACT	MOVS	PIECES	AMOUNT	WAGE	TIME
0 0 10	0 0 0 0	0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
1 1 1 1	1 1 1 1	1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
2 2 2 2	2 2 2 2	2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2
3 3 3 3	3 3 3 3	3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3
4 4 4 4	4 4 4 4	4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4
5 5 5 5	5 5 5 5	5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5 5 5
6 6 6 6	6 6 6 6	6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6
7 7 7 7	7 7 7 7	7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7 7 7
8 8 8 8	8 8 8 8	8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8 8 8
9 9 9 9	9 9 9 9	9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9

Form No. 42. Regular Type of Tabulating Card

period. If each report indicates the work done by a group of workers on all orders, jobs, processes, or operations during a definite period, each must be analyzed to determine the earnings of each member of the group and the total labor cost of each order, job, process, or operation.

The sorting process may be done either by hand or by a mechanical device. The most common mechanical device used for the sorting of cards is the sorting machine which is employed in connection with tabulating equipment. For this purpose, the performance record must be in card form as illustrated in Forms Nos. 42 and 43. Each card has columns of figures running from 0 to 9 or 12. The columns are divided into sections which are

called "fields." Each field represents a fact appearing on the performance record—such as the worker's identification number, the order number, the operation number, etc.

These cards are of two types—the regular and the dual. Form No. 42 is of the regular type in which all the data are translated into numerical symbols. Form No. 43 is an illustration of the dual type and permits all facts to be written in beforehand as well as punched in later. Both types are first perforated by a punching machine to permit sorting. If an employee's identification number is to be recorded on the card, the figures corresponding to those in that number are punched in the field which represents that fact.

DEPT. No. 25		DATE		EMPLOYEE NO. 101									
	HOURS	RATE	PIECES	AMOUNT	CLASS	ORDER	PART NO	OPER	DESCRIPTION				
+													
1 11-122026													
JUN 20	8.0												
JUN 20	0.0												
TOTAL HOURS		8.0		60	4.80	815042321	3	Ream					
PREM. ANT								R. U. B.					
D. W. ANT					4.80								
FOREMAN								INSPECTOR					

Form No. 43. Dual Type of Tabulating Card

After the cards have been completely punched with the facts concerning the worker's performance, they are placed in a sorting machine which sorts them according to the information desired. These machines sort the cards at the rate of 300 or more per minute.

The cards are next placed in a tabulating machine which summarizes them according to the classification into which they have been sorted. These tabulating machines are also of two types—one showing, in the indicators in the machine, the results of the tabulation, the other producing a printed record of the total and the items composing it.

The use of tabulating equipment in summarizing performance records is advantageous for three reasons. In the first place, it handles a mass of detail within a minimum of time. It enables one to analyze and summarize the data on the performance records in a much shorter time than that which would be necessary if the work were done by hand. Secondly, it is accurate in sorting and tabulating the cards, in spite of the fact that the results are obtained in less time than a clerk can obtain them. Thirdly, inasmuch as it handles a mass of detail speedily and accurately, it reduces clerical expenses.

Another mechanical device used in the analysis and summarization of the performance records is the analysis and auditing machine. This machine furnishes a printed record which shows the results of the analysis. It does not necessitate the use of a special form of card as is required by the tabulating equipment, for the data are immediately set up in the machine from the performance records. The latter records, however, must first be sorted by hand according to the classification desired.

This machine provides for 27 separate classifications and counts the number of items in each classification. It accumulates a total for each of these classifications and furnishes 3 group totals. It also furnishes sub-totals of each classification and as many as 5 printed records of each classification.

The keyboard is divided into 3 sections. One comprises 10 rows of 10 keys each which may be used as code numbers to identify the amounts accumulated. The second section consists of 3 rows of 9 keys each that are used for the classification totals. The third section comprises the amount keys by means of which the various amounts are set up in the machine and accumulated.

The printed record is made on a roll of paper, which is in the machine, and gives a complete list of items of each classification, their serial number, identification symbol, and amount. It is also equipped with an autographic feature which permits a written notation to be made on the record.

The machine also provides tickets which contain the same information as the printed record, viz., date, serial and identification numbers, and amount, and these tickets can be used in various ways.

### Summary

The necessity for performance records, which show what the employee has done during the hours recorded on the attendance records, depends upon the method of cost-finding, the wage system in force, and the method of distributing factory overhead. These records can be dispensed with only where each department performs one operation and all the members of that department are paid on a time basis.

The content of performance records depends upon the same considerations as their need. Furthermore, if the preparation of the payroll is to be expedited, these records will supply the necessary data. Performance records have several forms, each of which has its own particular advantages and disadvantages. They may be individual for each worker and for each task, individual for each worker but cumulative for his tasks, individual for each order, job, or operation but cumulative for the workers engaged on that task, or cumulative for a group of workers and for the tasks they perform. The selection of the period to be covered by these reports depends upon the duration of the task, the method of cost-finding, and the time of preparing the payroll. Information may be recorded on these performance records entirely by hand or partly by hand and partly by machine.

The manner of verifying the data on the performance records depends upon the nature of the facts to be checked. Thus, information concerning time is checked by comparing the data with the number of hours shown on the attendance record or with the standard time set for the task, whereas quantities are verified by an actual count. Performance records are then summarized, by hand or by machine, first, to determine the worker's earnings and, second, to obtain the labor cost of the task.

## CHAPTER V

### DETERMINATION OF WAGE PAYMENT

#### Frequency of Wage Payment

Compensation is paid to employees at the end of definite intervals of time—weekly, bi-weekly, every ten days, semi-monthly, or monthly. The length of these intervals depends upon a number of factors. In the first place, the laws of many states require the payment of employees at the end of a definite period. For example, the law of one state provides that every corporation or joint stock association, except those operating a steam surface railroad, must pay its employees weekly “the wages earned to a day not more than six days prior to the date of such payment.” The employees of a corporation or joint stock association operating a steam surface railroad are to receive, on or before the first day of each month, “the wages earned during the first half of the preceding calendar month ending with the fifteenth day thereof, and on or before the fifteenth of each month . . . the wages earned during the last half of the preceding calendar month.”

Where the laws of a state do not provide the time at which the employees are to be paid, the regulations of the labor union to which the workers belong often fix the time of payment. Otherwise, the frequency with which workers are paid depends upon the convenience of the management. This involves a consideration of the number of days necessary for the preparation and payment of the payroll. Where, for example, the number of employees is large, the preparation of the payroll and its payment may take four or five days if the clerical staff is small and the work must be done by hand. In fixing the day of payment, however, the management should also consider the convenience



of the worker. Many employees need their earnings as soon as possible and, if they are required to wait longer than one or two weeks, may suffer hardships.

#### **Purpose of the Payroll**

After the length of the pay period has been established, the amount due each employee for that period must be determined. This is computed in accordance with the terms of the employment contract and is summarized and set forth in the payroll.

#### **Time of Starting the Payroll**

The time when the preparation of the payroll takes place varies with each business. In some instances, the payroll is written up daily. In other instances, its preparation is begun two, three, or more days before the date of payment. In still other instances, the payroll may be prepared a few days after the end of the payroll period.

Such variation in the time depends upon several factors. Thus, if the working force is large but the number of clerks preparing the payroll is small and if the workers are to receive their earnings one or two days after the end of the payroll period, the payroll must ordinarily be prepared day by day. However, the use of mechanical devices may shorten the time within which the payroll can be prepared and thus its preparation need not be begun at so early a date. On the other hand, if the working force is very small, the payroll may be prepared after the payroll period has ended. In other words, the time when the payroll is started depends upon the following factors: (1) the number of employees; (2) the number of clerks preparing it; (3) the time elapsing between the end of the payroll period and the date of payment; and (4) the mechanical devices used.

#### **Sources of Payroll Information**

The source from which the data are taken for the payroll depends upon the wage system employed and the method of cost-finding. If all the workers are paid on either a production basis

or a bonus or premium for time saved in accomplishing their tasks, the performance record will provide the necessary information. On the other hand, if all employees are paid on an hourly or daily basis and if the method of cost-finding makes it possible to eliminate the use of performance records for individual workers, the payroll must, of course, then depend upon the attendance records for its information. Moreover, it is usually necessary to rely on the attendance records for the payroll of the office workers. However, the payroll may be based on the performance records where they are prepared and where they furnish a complete account of the worker's daily time, even if the earnings are on a time basis.

#### **Payroll Preparation**

The work of preparing the entire payroll may be assigned to a separate Payroll Department or it may be divided among several departments. One department may prepare the payroll of the factory, and another, the payroll of all office workers or those paid on a salary basis. If a separate payroll is prepared for all important officials, this work may be assigned to the Treasurer or some other executive in order to keep the information secret. In short, the duty of preparing the payroll may be assigned to a separate department, if the number of employees is large, whereas, if the working force is small, the payroll may be prepared by some members of the Accounting Department as incidental to their other duties.

#### **Content of the Payroll**

Although the assignment of the payroll work depends upon the number of employees and the nature of the payroll, the content varies according to the wage system prevailing and, above all, according to the requirements of the management. In all cases, however, the payroll must show the name of the employee and his or her identification number. In addition, it may indicate the worker's occupation or position and department. If all employees are paid at hourly rates, the payroll may bear the total

hours for the payroll period or the hours worked by an employee each day of the period. The recording of the daily hours of each worker serves the purpose of having the payroll give a complete record of his time during the period so that no reference need be made to the attendance records for the time worked any day.

However, if the workers are paid piece rates, the quantity produced by each worker each day or during the entire payroll period may be shown. Where only the total production for the payroll period is recorded on the payroll, the performance record must then supply the details of that total.

The next items that appear on the payroll are the rate per hour or per piece and the total amount earned by each worker during the period. The daily earnings of each worker may, if desired, also be indicated.

Moreover, if a bonus or premium is paid in addition to the regular earnings, the payroll usually indicates the amount of earnings of each sort, although sometimes a separate bonus payroll is prepared, especially where the bonus period differs from the regular payroll period. The payroll also usually carries information regarding the amounts to be paid a worker for overtime.

In addition to the data concerning earnings, the payroll may list in detail or in total the deductions to be made from a worker's earnings and show the net amount due. Wherever possible, the payroll may also indicate its analysis of direct or indirect labor—a matter which will be discussed later.

### **Payroll Deductions**

The deductions from a worker's earnings, mentioned above, may arise in various ways. If it is the policy of a business to lend money to its employees and require them to repay the loan in periodic instalments, those instalments may be looked upon as a type of deduction. If all workers are required to carry life insurance and pay premiums thereon or contribute to a pension fund

periodically, such payments are also considered as deductions. Other deductions made may cover such items as purchases of commodities by employees, pay advances, and garnishments.

Some of these deductions may be, from period to period, comparatively constant in amount, inasmuch as they are definitely fixed by contract, whereas others may vary. For example, the premiums paid for life insurance are definite for each pay period, unless a worker increases or decreases the face amount of his policy—a change that does not occur every period. The contributions to a pension fund or a savings association, garnishments, and amounts deducted in payment of a loan are also certain. On the other hand, the amount owed by an employee for the purchase of commodities varies from one payroll period to another. In many mining districts, coal or other products are purchased by a worker from the mining company that employs him. Obviously, the total amount of these purchases will not be constant each payroll period. It will, therefore, be necessary to accumulate the amount of these varying charges each period.

The work of ascertaining the amount of the payroll deductions may be assigned to the department preparing the payroll or to another department. If these deductions are constant for each period, the Payroll Department may keep the necessary record. On the other hand, if they vary from one period to another, the department that makes the sale or renders the service should then accumulate the amounts and report their total to the Payroll Department at the end of the payroll period. The Payroll Department should not ordinarily be burdened with the collection of the details of these deductions, particularly where the employees are numerous and their purchases frequent.

The payment of these deductions may be made in either of two ways. Under one method, their amount may be immediately deducted from the worker's earnings at the end of the current payroll period and the difference paid to him as his wages. If the earnings are paid in cash, a receipt for the payment of the deductions should be inserted in the pay envelope. If the worker

is paid by check, their amount should be shown thereon. Under the other method, two pay envelopes are prepared. One envelope contains an amount of cash or a check equal to the amount of the deductions. The other contains the net amount owed the worker. The first envelope will be turned over by the worker to his foreman or to some other official who acts as a collection agency.

The first method is usually more advantageous than the second. Under the first method, it is evident that, if the employees are paid in currency, less currency will be handled and less time will be required in preparing the pay envelope than under the second one. On the other hand, if the check method of payment is used, the second method has the advantage that a check, properly endorsed by the workers, is received in payment of his purchases, and his endorsement of the two checks constitutes a receipt for his full wages earned for the period.

### **Payroll Form**

The form of the payroll varies in the same manner as the attendance and performance records. Under one form, the payroll is an individual payroll for each worker, which is, however, cumulative as to time, i.e., the same payroll record covers several payroll periods. This form is illustrated in Forms Nos. 44 and 45. It has the advantage of showing, for a definite period of time, an employee's earnings and progress in terms of money. Nevertheless, it has the disadvantage of necessitating the use of other means to determine the earnings of all employees for each payroll period.

The second form of payroll, illustrated in Form No. 46, overcomes this disadvantage. This form is cumulative as to employees in that it shows the wages owing to several or all workers for a definite period of time, viz., for the payroll period. It, of course, indicates the individual earnings of each employee as well as the total amount due for the particular payroll period. Inasmuch as the employees' names may be listed according to department or occupation, this form will facilitate the determination of

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[illegible]

Wk's Ed'g	Hrs.	Pcs.	Amount	Bonus	Gross Amt	Deduction	Net Paid
Jan. 6							
Jan. 13							
Jan. 20							
Jan. 27							
July 7							
July 14							
July 21							
July 28							
June 23							
June 30							
Total							
Dec. 22							
Dec. 29							
Total							

	Gross Amt	Deduction	Net Amt
First 26 Weeks			
Second 26 Weeks			
Total			

### Summary:

# THE DEMAN COMPANY - INDIVIDUAL PAYROLL SHEET FOR 19\_\_

Name \_\_\_\_\_ Number \_\_\_\_\_  
 Sex \_\_\_\_\_ Age \_\_\_\_\_  
 Employed as \_\_\_\_\_ Employment began \_\_\_\_\_ 19\_\_  
 D.W. Rate \_\_\_\_\_

Week	Week Ending	Total Hours	Extra Hours	Piece Work	Prod. D.W.	Non-Prod. D.W.	Premium or Bonus	Total Wages Earned	Deductions	Net Wages Earned
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
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35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
Total										
Arithmetic Averages										

[illegible]

Form No. 46. Payroll (Individual for Pay Period)



## LABOR COST RECORDS

the earnings of workers by departments or by occupations and thus facilitate the analysis of the payroll. Furthermore, if the wage rates are the same for all members of a definite occupation,

LEO CO., INC.		WAGE STATEMENT	
For the week ending on _____		19__	
Name _____			
No. _____		Dept. _____	
	Hours	Pieces	
Sunday			
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Total _____			
_____ Hours @ _____			
_____ Pieces @ _____			
Premium _____			
Adjustments _____			
Gross Total _____			
Deductions _____			
Amount to be paid _____			
Checked by _____			

Form No. 47. Payroll (Individual for Employee and Pay Period)

it furnishes an easy means of detecting any overpayment to workers of the same trade. It has, however, the disadvantage of making it difficult to determine the earnings of each employee for several payroll periods.

The disadvantage of the second form is overcome in the third form, illustrated in Form No. 47. This is individual for both the worker and for the payroll period in that a separate payroll is prepared for each worker at the end of each payroll period. This is frequently used where the management desires to give to the employee all the details concerning the calculation of the worker's earnings for the period. The advantage of this form is that it usually enables one to present considerably more information than would be possible on a payroll covering the wages of several or all employees for each payroll period. It has, however, the same disadvantage as the one illustrated in Forms Nos. 44 and 45.

A fourth form of payroll may be said to be cumulative both as to the workers and as to the payroll periods in that it covers the wages of several or all employees for several payroll periods. This form, illustrated in Forms Nos. 48A, 48B, and 48C, consists of two parts—a master sheet and guide sheets. The master sheet contains the names of all the employees together with any other information that does not change from one period to another. The guide sheets indicate the earnings of each employee and are so placed in conjunction with the master sheet as to set forth the earnings of any employee during any particular period covered by the payroll. Inasmuch as this form may be expanded to include the earnings during several pay periods, it may in this way be used to show the wages earned by each employee for as long a period as even a year. Such expansion, however, may not be practical if the record becomes too bulky. It will be noted that a payroll of this type permits the analysis of earnings by departments (or by some other classification) because the workers' names are arranged thereon according to departments (or in accordance with the other arrangement), as illustrated in Forms Nos. 49A and 49B. Moreover, its use eliminates the need of rewriting at each payroll period such information as remains the same from one period to another, since such data appear on the master sheet.

## LABOR COST RECORDS

Employee		Rate per { Pc. Hr.	Week Ending on											
			Hrs } per Day Pcs }							Total	Amount	Adjust- ments	Net Amount	
No.	Name		M	T	W	T	F	S						


Week Ending on										
Hrs } per Day Pcs }							Total	Amount	Adjust- ments	Net Amount
M	T	W	T	F	S					

Week Ending on										
Hrs } per Day Pcs }							Total	Amount	Adjust- ments	Net Amount
M	T	W	T	F	S					



Form No. 48A. Payroll (Master Sheet)  
 Form No. 48B. Payroll (Guide Sheet)  
 Form No. 48C. Payroll (Guide Sheet)





### Listing of Employees on Payroll

If a payroll is of the second or fourth form, some consideration must be given as to the order in which the names of the employees are to appear. Sometimes the names are arranged alphabetically. This arrangement facilitates the location of an employee's name on the payroll, but it makes it difficult to ascertain the earnings of all employees of the same department or occupation.

Again, employees' names may be listed on the payroll in the numerical sequence of their identification numbers. If simple numbers are used, with no numbers omitted, a numerical arrangement indicates immediately the number of employees. It, of course, has the same disadvantage as an alphabetical arrangement. If, however, a system of combining numbers is employed in order to indicate the department, occupation, or other information concerning the worker, sequence of numbers cannot usually be maintained, and the last number on the payroll will not then show the number of employees.

A third arrangement is one in which the names are listed by occupations. Here one can ascertain the number of, and the amount earned by, employees of each occupation—statistics that are often used by the management in increasing or decreasing its working force. However, if a department consists of members of different occupations, an arrangement of this sort will usually necessitate an analysis of the payroll by departments.

Under a fourth form of arrangement the names of employees are grouped together according to departments. Such a grouping makes it easy to determine each departmental payroll. It may also facilitate the distribution of the pay envelopes among the employees, since the envelopes of one or more departments may be given to one pay clerk who can distribute them while the employees are at work. Notwithstanding these very considerable advantages, the departmental arrangement has one important disadvantage. If the management desires information relative to the number of employees and their total earnings in each occupation, it will be necessary to analyze the payroll, provided workers

plying the same trade are employed in different departments, as is usually the case. Otherwise, departmental grouping is the best of all four arrangements.

It is apparent that no one of the four orders of arrangement discussed above includes all the desirable features. It is possible, however, in some situations to combine them in order to secure their respective advantages. If the identification number of the employee is used to designate his department as well as his relative number and if the departments are organized on a functional basis so that all members of a department perform but one operation—there is, thus, but one occupation represented within a given department—the listing of employees' names, by departments, on the payroll will result in both a numerical and occupational arrangement. This allows, without resorting to any expensive analysis, the determination of the earnings by departments and by occupations.

### **Treatment of Absentees on Payroll**

In listing the names of employees on a payroll that covers one or more periods and shows the wages due several or all the workers, the problem of handling the names of absentees requires consideration. The solution of this problem depends upon several factors. If a payroll covers more than one period—such as a payroll utilizing master and guide sheets, as explained on page 91—all names once entered must be retained for the period covered by the master sheet. Names of absentees or those dismissed may be dropped, however, when new master and guide sheets are prepared.

Another consideration to be taken into account in this connection is the method according to which employees' names are listed on the payroll. If they are arranged numerically and if every number must be accounted for, absentees should then be listed so that the numerical sequence will not be broken. This applies to cases where the names are arranged both departmentally and numerically as well as where only the numerical arrangement is used.

A third factor that may necessitate the retention of absentees' names is the inflexibility of the mechanical devices which are used in preparing the payroll and in making the payment. If, instead of writing by hand, the addressing machine is used in printing the names of the employees on the payroll and if the device is not equipped with an automatic selector which makes it possible for the machine to pass over the names of absentee workers, the omission of names therefrom requires the withdrawal of the name plates of the absentees from the files and the refile of these plates when such employees return. To avoid this inconvenience, the names are oftentimes retained. Furthermore, in this latter instance, if the addressing machine is also used for writing the pay check, the absentee's plate will be used in writing his name on the check, but the amount will be left blank in those cases where nothing is due the absentee employee for the particular payroll period.

The retention of the absentees' names also depends upon the length of the absence. In some cases, it may be the policy of the management to eliminate the names of those employees who have been absent longer than a certain length of time, such as two weeks or a month. In other instances, the management may retain the names of those who are absent on account of illness but drop the names of those who are on temporary leave. In the latter case, the retention may depend upon the occasion for the absence.

#### **Treatment of Temporarily Transferred Employees on Payroll**

Similar to the problem of absentees' names on the payroll is that of employees temporarily transferred to other departments, where the names of workers are departmentally arranged on the payroll. Thus, one department may lend the services of one or more of its employees to another department. The method of handling the names of such temporarily transferred employees on the payroll requires consideration. The problem involved is whether the names of these employees shall be shown only on the payroll of the department to which they are regularly assigned or on that of the borrowing department as well.



Some advocate the retention of the names of the transferred employees on the payroll of the department of which they are ordinarily members. If this is done, the earnings of these employees may be charged to the borrowing department in either of two ways. The sum of the earnings of the transferred employees may be added to the payroll of the borrowing department and subtracted from that of the lending one. To facilitate the collection of such charges, a special column, on each departmental payroll, may be used for the purpose of recording the amounts earned in other departments. The total represents the amount to be credited. If the charges and credits are not recorded on the payroll, the record must be made by journal entry.

Others advocate that the names of the transferred workers appear both on the payroll of their regular department and on that of the borrowing department. Under this method, each departmental payroll will show the wages earned in each department. Such a procedure may necessitate the preparation of two pay envelopes or pay checks—one for the amount earned by employees in their regular departments and another for that earned by them in the department to which they were transferred.

#### **Treatment of Salaries of Foremen, Clerical Workers, and Executives**

A third problem in connection with payroll preparation relates to the salaries of foremen, clerical workers, and executives and involves the question whether such earnings should be included with those of manual workers. The solution of this problem depends upon several considerations. If the payroll of the manual workers covers a period of time different from that covered by the payroll of officials and clerical workers, the salaries of the latter will appear on a separate payroll. A separate payroll must also be prepared for those officials or other employees whose salaries are to be kept confidential. Besides, the management may prefer to have the foremen's salaries on a payroll separate from that of the factory workers. Usually, however, the factory payroll

contains the earnings of all employees engaged in production, including the salaries of the foremen but excluding those of the important officials. The office payroll will then show the salaries of all clerical workers connected with selling and administration. The salaries of important executives will appear on a private or a confidential payroll.

### Verification of Payroll

After the payrolls have been prepared, they are usually tested as to their mathematical accuracy. This may be done in several ways. Under one method the payroll amount is compared with another report compiled from sources different from those which were used in making up the payroll. For example, the amount of a payroll, the data of which are derived from attendance records, may be compared with the amount charged to the manufacturing costs as shown by the cost reports prepared from the performance records. This method of comparison insures a greater degree of accuracy than that which would be obtained if the payroll data were merely rechecked. It, however, is applicable only where the employees are paid on a time basis—a basis similar to that of the attendance records—and either where no idle time arises in the employees' passing from one job, order, or process to another or where an adjustment for such idle time is made.

Under a second method of verification a comparison is made of the amount of the payroll with the cost calculations, where both amounts are derived from the same source. For example, the performance records may be used both in the preparation of the payroll and of the cost reports. Here the verification is not so satisfactory as under the first method, because the common source of both reports may be tinged with error. Nevertheless, this method still affords better results than a rechecking of the payroll, since rechecking involves the use of the same procedure as was followed in the original preparation of the payroll.

The method of rechecking all payroll calculations has already been indicated as a means of insuring the accuracy of the payroll.

Although this is the least efficient of the three methods, it may have to be followed wherever the use of the other two is impossible. The rechecking should, obviously, be done in such a manner as will insure the greatest accuracy. One method of accomplishing this is to have one person prepare the payroll and another to recheck the extensions and footings. Under another method—applicable to the payroll of those who are paid on a production basis—the total amount paid for the quantity produced is compared with the standard or estimated costs. Any discrepancies must, of course, be satisfactorily explained. A third way, useful in the case of day workers, is to account for the total possible man-hours of the pay period. Thus, the number of hours that the plant is in operation is multiplied by the number of workers. A fourth way is to compare the total amount of the payroll with the maximum amount—an amount represented by the arithmetical product of the number of operating hours of the plant and the sum of the various wage rates—of the earnings of all the workers.

In comparing the payroll with the cost reports, it must be noted that the labor rate used in distributing the labor cost to the cost of the product must—if the comparison is to be made on the basis of dollars—be the same as that paid the worker. However, if it differs, the amount of the difference must be taken into account in using the two reports—i.e., payroll and cost reports—as counter checks, the one against the other.

### **Payroll Analysis**

The next step after the verification of the payroll may be either its analysis or its approval. This depends upon the practice followed by the management. Here, payroll analysis will be discussed first.

A payroll may be analyzed for various reasons. For example, a factory payroll may be analyzed to determine the amount of labor to be charged as a direct cost of the product and the amount which is to be considered as a factory expense or overhead burden—in other words, the amount of direct and indirect labor. The

payroll of any enterprise may also be analyzed to obtain the number of workers employed in each occupation, the number of hours worked by each, and the earnings of each group. It may also be analyzed to ascertain the number of employees in each department, the number of hours they are employed during the payroll period, and the amount earned by them. As a matter of fact, analyses may be made for any purpose pertaining to the administration and cost of the labor factor in industry.

If space permits, the analysis of the labor cost into direct and indirect costs may be made on the face of the payroll—otherwise on a separate report. Of course, analyses made for other purposes are usually made on reports independent of the payroll, inasmuch as the details are too numerous to be recorded thereon.

### **Payroll Approval**

The approval of the payroll, which is usually the last step in its preparation before actual payment of wages, is utilized to accomplish either one or both of two purposes. It may be desirable to require the persons who prepare the payroll to approve or certify to the accuracy of their own work. It is also usually desirable to have the payroll approved by an important official, such approval constituting authorization for its payment.

The first purpose is accomplished by requiring the signatures of those clerks who wrote the payroll, made the extensions and additions thereon, and verified the calculation. These signatures may appear at the bottom or on the reverse side of every payroll sheet or on the final sheet only.

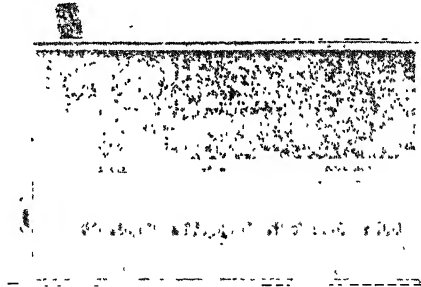
In the carrying out of the second purpose, practice varies greatly as to the particular official whose signature approves the payroll for payment. In some instances, the signature of the general manager is deemed sufficient. In other instances, an important executive of the Accounting Department—such as the controller, auditor, chief accountant, or cost accountant—may sign. In still other instances, that official who is in charge of the functional division or department for which the payroll is pre-

pared signs. For example, the factory payroll may be signed by the factory superintendent, whereas the payroll for the sales division would be signed by the executive in charge of that division.

The payroll may be approved for payment as a unit or in parts. Under the first method, the approving official may sign the payroll voucher or the payroll summary report. Under the second method, he may sign each department's payroll. Obviously, each method has its own advantages. The signing of the payroll as a unit does not waste the time of an important official and does not result in the work becoming a routine matter. On the other hand, the second method enables the official to scrutinize the payroll more carefully and, by so doing, to discover irregular items.

#### Mechanical Devices in Payroll Preparation

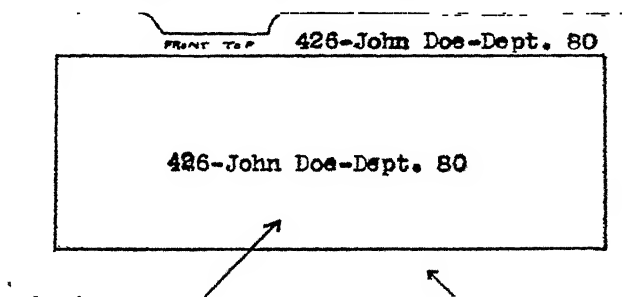
There are various mechanical devices that may be used in preparing the payroll. Instead of entering the name and number of



(Courtesy of Addressograph Company)  
Form No. 50. Addressograph Plate (Made from Metal)

each employee by hand or by typewriter, an addressing machine is frequently used. There are two types of such machines. In one, the addressograph, such payroll data are imprinted by special device on a metal plate which is used in making the impression. The other utilizes a plate made from Japanese silk upon which the payroll data are typewritten. These two types of plates are illustrated in Forms Nos. 50 and 51. These plates are always used in recording each employee's name and number on the payroll, and they may also be used for his attendance and performance records.

If use is made of an addressing machine, the information concerning the worker's hours, earnings, and deductions from his pay must, however, be inserted by hand, by typewriter, or by a machine constructed for that purpose. These payroll machines, five types of which are mentioned below, vary, generally, in the amount of detail which they can imprint on the payroll sheet. One kind enables the operator to insert on both the payroll sheet and individual wage record the gross amount earned by each worker, the amount deducted from his pay, and the net amount due. It also imprints on each pay envelope flap the net amount to be paid and the date—the flap constituting a pay receipt to be signed by the employee. The gross amount earned, a list of the



Japanese Silk

Cardboard Rim

(Courtesy of Elliott Addressing Machine Co.)

Form No. 51. Addressing Plate (Made from Japanese Silk)

deductions, and the net amount to be paid are also imprinted on the body of the envelope. At the same time, the machine accumulates the total gross earnings of all employees listed on the sheet, the total of each kind of deduction, and the total net amount to be paid. The latter totals may be inserted on the sheet. The forms prepared by this machine are illustrated in Form No. 52.

A second type of machine records, in the proper columns, the amount of each kind of deduction made from each worker's pay, in addition to the gross and net amounts earned. The same data are recorded simultaneously on both the individual's earning record

and the stub of the check or pay envelope. It also inserts the net amount of the pay check in two places. The forms produced by a machine of this kind are illustrated in Form No. 53.

The third type of machine writes simultaneously, on the payroll sheet and on the individual wage record, the symbol designating each employee's occupation, his rate of pay, the number of hours for which he is to be paid, the amount earned, the amount of each type of deduction, and the voucher and check numbers. At the same time, it enables the operator to insert, on the payroll and on the check, the employee's name and the net amount of his earnings. The machine computes the amount earned and, by means of the depression of a single key, prints the result. It also accumulates separate totals of the amounts earned, the deductions to be made, and the net amount to be paid—these items being inserted on the payroll sheet. If it is desired to protect the check against alteration, the printing must be done in pin-point type. An illustration of the forms prepared by such a machine appears in Form No. 54. The wage record in the illustration is cumulative and will show the amount earned by a particular employee during the year—a desirable feature in connection with the requirement to report employees' wages for income tax purposes.

A fourth type of payroll machine is one that enables the operator to prepare three or more records at the same time with as much detail as is desired and is consistent with the machine's width. The operator of a machine of this kind can, for instance, insert at the same time on the payroll sheet, on the individual wage record, and on the pay envelope or pay check stub the following data: the employee's name, gross and net amounts earned during the pay period, the total of the deductions from his earnings during the period, the total gross amount earned during the previous pay periods, and the total gross amount earned to date. The payroll sheet may also show an analysis of each employee's earnings according to account classification and an analysis of the payroll deductions. The machine automatically makes all computations and, by means of a register on the machine directly above each

# PAYROLL

## DETERMINATION OF WAGE PAYMENT

105

Department Assembly Date 1/14

DEDUCTIONS	AMOUNT EARNED	NET PAID	NAME
51.00	54.00	48.90	Wallace Fields 0127
7.00	46.50	39.50	Hugh Grand 0128
11.75	60.00	48.25	Norman Hayes, 0129

**EARNINGS RECORD**  
NAME: **NORMAN HAYES**  
**0129**

YEAR ENDING 1931

WK	DEDUCTIONS	AMOUNT EARNED	NET PAID	REMARKS
1	9.50	60.00	50.50	
2	11.75	60.00	48.25	
3				
4				
5				
6				
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## LABOR COST RECORDS

**ANY PROGRESSIVE COMPANY**  
ANYWHERE

### PAYROLL

Date \_\_\_\_\_

Payroll \_\_\_\_\_ MANUFACTURING Division \_\_\_\_\_

EMPLOYEE	REGULAR	OVERTIME	COMMISSION	SALES	NET PAY	CHECK NO.	CHECK DATE	NAME	OCCUPATION
1 5500	500	0.25	3000		4675	22140	501	HARRY NELSON	SUPERVISOR
2 3750	100	0.25			3625	22141	502	PAUL KESNER	GRINDER
3 4700	100	300	0.25	2400	4035	22142	503	JAMES ECKERT	GRINDER
4 3000	200					22143	504	WAL. C. EVAN	GRINDER
5 4200	100					22144	505	STEV. JAMES	POLISHER
6 4200	100					22145	507	W. A. GREEN	POLISHER
7 4200	100					22146	509	EDDIE LESTER	POLISHER
8 4200	100					22147	517	E. S. LECARD	POLISHER
9 4200	100					22148	518	W. D. BRIDEN	GRINDER
10 4700	100	300	0.25	2400	4035	22149			

**Individual Record of Earnings and Deductions**

EMPLOYEE: 503 JAMES ECKERT

REGULAR: 3000 OVERTIME: 300 COMMISSION: 0.25 SALES: 2400 NET PAY: 4035

**PAYROLL CHECK**

ANY PROGRESSIVE COMPANY  
ANYWHERE

PAY TO THE ORDER OF: 503 JAMES ECKERT

CHECK NO. 22142 DATE Jan 15 1940

AMOUNT \$4035.00

FOR DEPOSIT IN YOUR BANK OR CASH

WE HAVE FIRST NATIONAL BANK OF N.Y.

Write check and cash notes provided for payment which all clear from debt of bank.

EMPLOYEE	REGULAR	OVERTIME	COMMISSION	SALES	NET PAY
10 5400	200				5200
11 72926	1560	1700	780	1565	67321

Written by: \_\_\_\_\_

Checked by: \_\_\_\_\_

Approved: \_\_\_\_\_

**PAY ENVELOPE**

TO: JAMES ECKERT

FROM: ANY PROGRESSIVE COMPANY

AMOUNT: \$4035.00

DATE: JAN 15 1940

REMARKS: \_\_\_\_\_

(Courtesy of Burroughs Adding Machine Co.)

Form No. 53. Cumulative and Individual Payrolls and Pay Check or Pay Envelope (Prepared Simultaneously)

column, accumulates the total thereof. Although the operator must read each total from the register in order to insert the sum at the bottom of each column of the report, errors are easily discovered through the cross-computers of the machine, which, if all insertions are made correctly, should be neutral, i.e., register zero.

It also enables the operator to write the amount due and the name of the payee on the pay check or envelope. If the pay check is to be protected against alteration, pin-point printing type must be used, or a maximum amount, above which the bank should not pay, be printed on the check. Form No. 55 illustrates reports made by means of a machine of this sort.

A fifth type of payroll machine writes, after the name and number of an employee have been inserted on both the payroll and pay check, the numerical data which these forms require—such as employees' identification numbers and wages. In addition, the machine prints on the pay check the signature of the disbursing official. The check is protected against alteration of any of its information by the utilization of acid-proof ink which penetrates the fibers of the check paper. On the payroll sheet the machine imprints the number of the pay check and the amount to be paid to the employee. At the same time, it dates the pay check and prints its serial number thereon. If an itemized statement of the employee's earnings and deductions are to be given, such statement is attached to the check as a stub and is filled out by the machine. The machine distributes each check amount into various classification totals. Although it does not print the amount of each addition to, and each deduction from, an employee's earnings on the payroll sheet, it accumulates such amounts and prints the totals thereof, as a summary, on the bottom of the payroll sheet. It provides three grand totals, each of which is locked in the machine and is available to different individuals. One total represents the sum of the net amounts on the sheet, a second total indicates the sum of a definite block of checks written, and a third total shows the total amount of the entire payroll. It counts, in addition, each check and registers the total number of checks written; this counter is locked and is accessible only to the disbursing official. These features—particularly the total amount of checks written—afford a protection against the fraudulent use of the machine by any other member of the organization. Another protective feature arises from the fact that no other signature

<i>District</i>	EL DORADO
<i>Period Ending</i>	4/15

OCCUPATION	RATE	TIME	AMOUNT PAID	STOCK	DEBIT CASH	NON-CASH	CHECK	PAYEE	NET AMOUNT																
56	1.25	1.00	125.00	5.00	7.50	F-456	5789	JAMES J COLLINS	112.50																
57	1.50	1.00	150.00	10.00	10.00	F-456	5790	ARTHUR BAKER	140.00																
58	1.00	.96	96.00	5.00		F-456	5791	ROBERT S BROWN	91.00																
<div><div>WAGE RECORD</div><div>Plant: ROBERT S BROWN Manager: EL DONALD Rate: 1.00</div><table><thead><tr><th>Day</th><th>Rate</th><th>Time</th><th>Amount</th><th>Stock</th><th>Debit Cash</th><th>Non-Cash</th><th>Check</th></tr></thead><tbody><tr><td>64</td><td>1.00</td><td>.96</td><td>96.00</td><td>5.00</td><td></td><td>F-456</td><td>5791</td></tr></tbody></table></div>										Day	Rate	Time	Amount	Stock	Debit Cash	Non-Cash	Check	64	1.00	.96	96.00	5.00		F-456	5791
Day	Rate	Time	Amount	Stock	Debit Cash	Non-Cash	Check																		
64	1.00	.96	96.00	5.00		F-456	5791																		
TOTALS			371.00	10.00	17.50				343.50																

No 5791

DETROIT MICHIGAN    APR 15 192-

PAY TO THE ORDER OF    ROBERT S BROWN    \$ 91.00

CITY NATIONAL BANK

CHICAGO, ILL.

TRADE PAY

NOT VALID FOR ANY FINE EXCEEDING FIVE OR IF PRESENTED FOR PAYMENT AFTER 90 DAYS.

Form No. 54. Cumulative and Individual Payrolls and Pay Check (Prepared Simultaneously)  
(Courtesy of Burroughs Adding Machine Co.)





plate can be inserted when the true signature plate is removed for safekeeping, for the compartment in which the plate is inserted in the machine is locked. Furthermore, the machine, when it is not in use, is entirely locked. The reports produced by this machine are illustrated in Forms Nos. 56A and 56B. The checks used in conjunction with this machine may be inserted singly or in sheets of five. In the latter event, a check cutting and sorting machine is used to cut the checks and sort them into their correct numerical order—in a single operation.

In summarizing the above discussion of the mechanical devices used in payroll preparation, it should be noted that all five types of machines are alike in two respects and differ in two others. They are, naturally, similar in so far as they afford information relating to the payroll. Another common feature is the machine's dependence on the ability to secure a careful alignment of the various forms so that the information set up in the machine may be recorded, at one impression, in the proper columns and spaces. The two points of dissimilarity concern the manner of making the imprint and the amount of data presented. The first, second, and third types of machines use the horizontal cylindrical roller—similar to the one used in the ordinary typewriting machine—as the supporting block or base against which the printing is done. Obviously, in these types of machines, the blank forms are inserted in the same way that paper is fed into the common typewriter. The fourth type, however, uses the flat writing principle, and the forms lie flat on a platen which is at the base of the machine and which serves as support in printing. Imprints by the fifth type of machine are made in very much the same manner. The dissimilarity in the data printed by the machines is this: they all print numerical data on the payroll, but, in addition, the third and fourth types of machines enable the operator to print the employee's name and number on both the payroll and pay envelope or check.

Another set of devices, mentioned above as commonly used in payroll preparation, is the tabulating equipment—two machines of which, the puncher and sorter, are employed in summarizing the

## LABOR COST RECORDS

FORM NO. 56A

**THE NATIONAL CASH REGISTER COMPANY**  
**PAYROLL SHEET**

DEPARTMENT _____		WEEK ENDING _____				
CLOCK NO.	NAME	CHECK NO.	AUDIT	AMOUNT	SYMBOL	REMARKS
2386	JOE C. SAUER	123901		40 00	11	
2387	ELMER RYAN	123902		50 00	OK.	
2389	D F. GOITNER	123903		30 00	11	
2391	R. G. PHILLIPS	123904		34 00	11	
2392	CARL A BROSE	123905		45 00	OK.	
2393	GEORGE C LANE					
2395	M G. BREEN					
2397	JOHN HILEMAN					
2398	J B WRIGHT					
2397	THOMAS AUVIL					
2398	JOHN B. MILLS	123905		95 00	12 OK.	
2398	JOE A KEMPER	123905		110 00	12 GROSS	
2361	FRANK DALY	123905		7 00	12 BONUS	
2363	RUSSELL DOE	123905		0 00	12 WISC.	
2364	CHARLES STONE	123905		6 00	12 INS.	
2372	HOMER J. LACY	123905		4 00	12 SAVE	
2373	ERNEST LOGAN	123905		3 00	12 OTHER	
2375	K. L. JACKSON	123905		0 00	12 DISC.	
2376	ROBERT RADER	123905		0 00	12 ALLOW	
2378	FRED J. DURST					
2379	LYLE E. GREEN	123905		212 00	13 TOTAL	
2380	RAY M. EYER	123905		13 00	13 TOTAL	
2382	ROSS SCOTT					
2384	L. R. GEIGER					
2385	CARL KELLY					

FOR USE WITH DEDUCTION MACHINE

TOTAL

(Courtesy of National Cash Register Co.)

 Form No. 56A. Cumulative Payroll (Prepared Simultaneously with  
 Form No. 56B)

PAY TO THE ORDER OF

PAY ROLL CHECK  
THE NATIONAL COMPANY  
DAYTON, OHIO

APR-13-1933 123905

CARL A. BROSE

2392

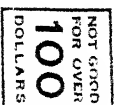
SPECIMEN

MUST BE PRESENTED WITHIN THIRTY DAYS FROM DATE

PAY \$45.00

NOT VALID - SAMPLE

PROTECTED AGAINST FORGERY OR ALTERATION  
BY NATIONAL COMPANY, INC.



*W. Smith*  
PAYMASTER

1933

11

1931

Form No. 56B. Sheet of Pay Checks (Used with Cumulative Payroll of Form No. 56A)

(Courtesy of)





## DETERMINATION OF WAGE PAYMENT

III

performance records. After the latter have been sorted according to the desired classification, they are placed in the tabulator, which produces a printed report in payroll form. This is illustrated in Form No. 57.

There is still another machine often used in connection with the preparation of the payroll. This mechanical device, the analysis machine, described in Chapter IV in connection with the analysis of the performance records, is found especially useful wherever a payroll is prepared for each employee. After the worker's performance records have been analyzed, for cost purposes, on the machine, the individual's wage record card, which shows his earnings for each pay period during the year, is next inserted. The operator sets up, on the machine's keyboard, the employee's number and the amount of his earnings and presses the "actual cash payment" key, whereupon the machine issues a pay ticket which bears the following information: the date on which the pay period ends, the employee's number, the word "pay," the amount of earnings, and the number of hours for which the employee is paid. This ticket, which is given to the employee before he receives his wages, is signed by him when he is paid. The information that appears on the ticket is also printed on the individual's wage record. This machine is similar to the fifth type of payroll machine described above in that it analyzes the payroll into the various cost classifications. It differs, however, from the other in that it does not write or sign the pay check and is only used in connection with a payroll that is individual for each worker. Both machines are manufactured by the same company.

ber of employees to be paid, the mechanical devices used, and the period of time permitted between the end of the payroll period and the date of payment. Information for the payroll may be secured from either the attendance or performance records, depending upon the wage system prevailing and the method of cost-finding in use. Although the payroll may vary in content in accordance with the prevailing wage system and, above all, with the needs of the management, at least the name of each employee, his identification number, and the net amount he has earned must always appear. Additional data may include the number of hours each employee works daily, the number of pieces he finishes each day, and a detailed description of the deductions made from each worker's pay. The payroll form may be individual for the worker but cumulative for the pay periods, individual for the pay period but cumulative for a group of workers, individual for both the worker and the pay period, or cumulative for both the pay periods and a group of workers.

In connection with payroll preparation, several problems arise. This is especially true wherever the payroll is cumulative for a group of workers, because it raises the question as to how the names of all employees, including those of absentees, are to be listed. The listing of employees' names by departments involves the further problem as to the manner of handling on the payroll names of workers temporarily transferred from their regular department to another. Furthermore, another problem deals with the question of the number of payrolls to be prepared—e.g., one for the factory, one for the clerical workers, one for the officers, etc. The solution of this problem depends upon the period of time for which each class of workers is to be paid and upon the confidential nature of the amounts involved.

The problem of verifying the payroll may be solved by comparing the payroll with another report whose data are taken from either the same or a different source, or by rechecking all amounts and calculations. After all these factors have been handled satisfactorily, the payroll is ready for analysis and, finally, for ap-

proval. The preparation of the payroll, like the preparation of attendance and performance records, may be facilitated by the use of mechanical devices. Some of the machines that are manufactured for this purpose allow the operator to insert only the employee's name and number, others print only the numerical data concerning the worker's wage, while still others combine both features. There also are other devices which enable the operator to record the numerical data on the pay check as well as on the payroll. In addition to these machines, tabulating equipment may also be used.

## CHAPTER VI

### MAKING THE WAGE PAYMENT

#### **Time of Payment**

After the payroll has been approved for payment, the next stage in payroll procedure is the distribution of the earnings, which may be regular or irregular. Regular distributions are those that are made on the regular pay day. Irregular distributions, on the other hand, consist of payments to employees who are absent on pay day or to those who resign or are discharged during the payroll period.

#### **Elapsed Time Between End of Payroll Period and Day of Payment in Regular Distributions**

It frequently occurs that an interval of time elapses between the date on which the payroll period ends and the date on which the distribution of the wage payment is made. This may be due to various conditions. In the first place, it is obvious that a payroll for a large number of employees requires for its preparation more time than is needed for one for a small group. On the other hand, if mechanical devices are used, the time needed for the preparation of the payroll may be greatly shortened as compared with hand methods of preparation. Moreover, in the case of a payroll for a larger number of employees, this interval of time may also be shortened if the payroll is based on performance records prepared weekly for each worker. In addition, the type of wage system employed may affect the elapsed time, inasmuch as more time may be required to calculate a wage that consists of a bonus or premium than one based on an hourly or a daily rate. Furthermore, the time needed to prepare a payroll depends upon the number of clerical workers engaged in that work. In short,

the elapsed time depends upon a number of factors, none of which can be definitely considered as the important one.

Although the management must, in setting the date of payment, consider the factors mentioned above, it is compelled by laws of many states to pay employees within a fixed number of days from the date when the payroll period ends. For example, the State of New York requires all employees, with the exception of those employed by electric and steam railroad corporations, to be paid within 6 days from the end of the payroll period.

### **Medium of Wage Payment**

The payment of wages may be made in either of three ways—in currency, by a check drawn on the employer's depository, or by a method, described below, which utilizes cooperation between the employer and his bank. In many states the statutes prescribe the manner of payment. For example, in the State of New York all businesses engaged in trading, manufacturing, or other enterprises, excepting electric or steam railroads, are required to pay in currency. If such employers, however, desire to pay by check, they must satisfy certain legal requirements before they can do so. In many instances, moreover, the labor unions compel the payment to be made in currency.

Each of the three methods has, from the viewpoints of both the employer and employee, its advantages and disadvantages. In the first place, from the employee's point of view, the currency method of payment makes the worker independent of the place where he buys his necessities. If the employee is unable to secure currency from the bank on which the payroll check is drawn, he will have to depend upon his tradesmen—grocers, butchers, etc. In this way there can be little secrecy concerning his earnings.

On the other hand, the currency form is disadvantageous to the employee in that easy spending is encouraged. If he receives his wages in check form and the bank on which the check is drawn exchanges it for currency, the employee may usually be

persuaded to open a thrift account—thereby inducing him to save. Then, too, a wage in currency form may easily be lost by the worker, who may not be able to trace it. A bank check, however, is not so easily lost or stolen, because payment can be stopped.

The currency form of payment also has its advantages and disadvantages from the employer's point of view. In the first place, it may take less time to fill a pay envelope with currency than to write the check. The payroll denominations can easily be ascertained by hand or by mechanical device. The coin can be dropped into each pay envelope by a coin changer, although paper currency must be inserted by hand—processes which may take less time than that consumed in writing a check.

In the second place, the currency form of payment eliminates those risks of loss that are connected with checks—such as forgery and the alteration of amounts. In addition, an employer who uses currency in the payment of wages is not troubled with stop-payment orders.

In the third place, an employer is not burdened with the regulations to be followed under the labor laws of the various states in order that he may pay by check. Under those laws an employer must usually submit proof of his financial responsibility and give assurance that the checks may easily be cashed for their full amount by the employee.

There is, however, one important disadvantage to an employer when he uses the currency form of payment. The transportation of the currency from the bank to the employer's place of business and its insertion in the pay envelopes involves a risk of loss not only of the money but also of the lives of faithful employees as well. The loss of the first may be compensated by insurance, but the second cannot be placed on a monetary basis.

The advantages and disadvantages of the check method of payment, both from the standpoint of the employee and employer, have, for the most part, been sufficiently indicated above. From the employer's standpoint, one advantage of the use of payroll checks, not referred to above, is that the worker's indorsement

of the check, when presented for payment, constitutes a receipt for his wages.

The third form of paying wages, mentioned above, involves the submission of a list of employee's names and earnings to the bank by the employer, who gives the bank a check in payment of the total payroll. The bank opens either a savings or a checking account with each employee, who may draw all or any part of this credit at any time. This method eliminates the pay checks or envelopes and the transportation of currency. Its use is possible only where a bank is willing to cooperate with the employer.

The determination of the method of payment to be used depends upon several considerations. First, if the labor statutes of the state or the regulations of the union require the payment of the wages in currency only, there is no choice for the management. Second, the literacy of the workers should be taken into account. If most of the employees cannot read or write, the check form of payment usually proves unsatisfactory. On the other hand, if the locality in which the business operations are carried on is not safe against burglaries or holdups, the check form may be necessary. Fourth, the ease with which checks can be cashed by the worker must also be considered, inasmuch as any difficulty in this regard will usually cause dissatisfaction among the employees.

#### Preparation of Cash Payment

The procedure in preparing wage earnings for distribution among employees depends upon the medium of payment—whether by currency or by check. The cash method of payment involves three stages. The first stage, which consists of the determination of the currency denominations needed for making payment, may be done with or without the aid of a mechanical device. One such device, known as a coin denominator, has a separate key counter for each denomination of both coin and paper currency and provides an indicator of three places for each key counter. When the key counter is depressed once, it registers one unit of a par-



ticular denomination. For example, if it is desired to determine the currency required for \$28.65, the \$20 counter key is depressed first, the \$5 key next, then the \$2 key, afterwards the \$1 key, the 50-cent key, the 10-cent key, and finally the 5-cent key. If this is the first amount placed in the machine, the indicator of the \$20 key will register "1" and the indicators of the keys of the other denominations will perform similarly. If other amounts have preceded it, the pressure on each key will merely add one more unit of the denomination. It will be apparent that, if, in the above example, two \$10 bills are desired instead of one \$20 bill, the \$10 counter key should be depressed twice.

The procedure involved in determining, without the aid of a mechanical device, the denominations to be given is similar in principle to that in which a device is used. When the amount earned by each employee is written on the payroll, it is analyzed into its currency denominations on a separate sheet of paper, on which a separate column appears for each denomination. In each column there will be entered the number of coins or paper bills of the particular denomination indicated at the head of the column and needed for making payment. The number of coins or bills of each denomination required to pay all the earnings is found by ascertaining the total of each column.

After the denominations have been ascertained, the next stage is to secure the currency from the bank. Many employers, to accomplish this, resort to various means of avoiding, in the transportation of the funds, the loss of money and life by burglary and theft. For this purpose use may be made of armed guards or members of the local police department to accompany the person carrying the cash. Or the services of an armored trucking company specializing in the transportation of cash may be employed. Again, a list of the names of all employees and their earnings for the period may be turned over to an armored express company, which fills the pay envelopes with cash and distributes them—of course, charging a fee for the service. In the latter case the coin denominations will be determined by the express company.

THE PAY ENVELOPE AND ITS PREPARATION.—The third stage of preparing a payroll payment by currency is the insertion of the money in the pay envelopes. These pay envelopes may be used to convey information of various sorts to the worker. For example, in addition to the employee's name and identification number, which must be on the pay envelope in order that the paymaster may know to whom to give it, there may also appear—as explained in Chapter V—the net amount due or a detailed statement of the gross amount earned and an analysis of the deductions made. Sometimes, in addition to the data concerning earnings, the pay envelope may carry information concerning thrift—such as the name of a savings bank and the rate of interest paid on savings accounts. In another method of promoting thrift,\* not only are the name, department, and identification number of the employee given, but there may also be listed the names of the usual expenditures which every employee is called upon to make—viz., food, rent, clothing, etc. Utilizing such a convenient list, the worker is expected to insert the total paid or incurred for each such item during the pay period just ended. The difference between the amount received and the amount paid or incurred represents the amount remaining from the pay period's earnings, a large portion of which may usually be saved. Such envelopes, if kept for a year, furnish the worker with a fairly complete record of his income and outgo.

Inasmuch as space limits the quantity of information that can be placed on the pay envelope, resort is often made to inserting printed notices in the envelope. Such insertions, moreover, may attract the attention of the worker more quickly than would notices stamped on the outside, since his curiosity may be aroused upon opening his envelope. These insertions often consist of receipts for deductions made from the earnings, health and thrift literature, data concerning his bonus or wage premiums, or the amount of his annual earnings—information which he may need in filing his income tax return.

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\* W. L. Stoddard, "Making Pay Envelopes Promote Thrift," in *Factory*, March, 1924, pp. 316-317.

The currency may be placed in the envelope either by hand or by a mechanical device. The most common device used in this work is the coin changing machine, known as the payer type. This machine consists of a keyboard and a number of slots which contain the coin. As a key is depressed, the coins, which make up the amount shown on the key, are delivered by the machine into the pay envelope. The coin changing device may be obtained separately or as a part of a machine which can be used for adding the payroll and indicating the currency denominations needed. It should be noted, however, that the coin changing machine inserts only the proper amount of coins making up the "cents" portion of the wage. The "dollars" portion, usually involving the insertion of paper currency, must be done by hand.

#### **Preparation of the Check**

While the currency method of payment involves three stages, the check method requires but two. The first step is the establishment of a payroll fund. Where the earnings are paid by check, it is usually better to set aside, out of the general cash fund, a certain amount of cash sufficient to cover the total payroll. This amount is placed in a separate account at the bank, and checks are issued against it. Instead of definite segregation at the bank, sometimes such a fund may be established only on the accounting records of the employer. In this case all payroll checks will be drawn against the regular bank account but will be recorded as a charge against the payroll fund.

The writing of the check is the second step in preparing the payment. This involves the writing of the date, the order to whom the instrument is to be paid, the amount, and the signature. The date presents no problem whatever. The second item raises the question as to whose order the check shall be made payable. It may be written to the order of "bearer," in which event the check needs no indorsement in its negotiation. If the check is made to the order of the employee, indorsement is required and thus affords a satisfactory receipt for the payment. Indorsement also protects

the employee against loss of his earnings, for the check must be indorsed before it may be transferred. Of course, such indorsement may be forged, but loss through such means may be avoided if the employee indorses the check, immediately upon receipt, in favor of his depository for collection. The check may be made payable to the order of the employee and bearer—e.g., "John Doe or bearer"—instead of only to the bearer or to the employee. In the first case the check is payable to the bearer and so, as in the second case, needs no indorsement.

A second problem in the preparation of the check concerns the manner of entering the amount in such a way that it cannot be altered. One means of protecting against such alterations is to have printed a maximum amount thereon, above which the bank will not pay. If the amount of the check is less than this maximum, there is, of course, the possibility of its being raised within the limit set by the maximum. For this reason another means of protecting a check, which involves the use of a check writer or check protecting machine, is often employed.

The third consideration relates to the selection of the official who is to sign the check. It may be the treasurer, his assistant, the president, the vice-president, the paymaster, the cashier, or a trusted clerk. The signing official should, in all events, be chosen with the chief purpose of affording no opportunity for the perpetration of payroll frauds. Accordingly, the official signing the checks should, wherever possible, be different from the one approving the payroll.

The fixing of a time limitation within which the check must be presented for payment is the fourth consideration in connection with the use of bank checks for effecting the payroll payment. The time limitation practiced by many business firms ranges from 10 to 90 or more days. Whether this requirement interferes with the qualifications of a negotiable instrument under the Uniform Negotiable Instruments Law is a matter for adjudication.

**MECHANICAL DEVICES IN THE PREPARATION OF THE PAY CHECK.**—There are various devices which are used in preparing

the pay check. It is possible, with some devices, to write the check simultaneously with the payroll. Such machines, known as payroll machines, insert the name of the employee and the amount, but, with the exception of the machine discussed on pages 107 and 109, make no provision for the signed signature of the maker. Other devices such as check writers and check signers write the check independently of the payroll.

There are several different types of check writers, which may be classified in various ways. One classification may be made according to the manner in which the amount is imprinted. One type imprints the amount in numerals only, a second in words only, whereas a third enters the amount in both numerals and words.

A second classification may be made according to the manner in which the device protects the check against alteration. Some devices use acid-proof ink that colors the fibers of the paper without shredding it. Others shred the surface of the check and force the acid-proof ink into the fibers. Another type macerates, rather than shreds, the surface of the check and then saturates the fibers with acid-proof ink. A fourth type outlines the figures of the amount on an inked background.

A third classification is one formed according to the method of setting up the amount in the check writing machine. Some devices allow the entire amount to be set up in the machine before printing. In other devices each digit of the amount is printed the instant after each numeral is set up on the keyboard. The first type of machines may be used more advantageously where many checks of the same amount are to be written, for that amount can be written repeatedly without the necessity of setting it up each time.

In addition to payroll machines and check writers, use is made of mechanical devices in the signing of the name of the payer. One form of device enables the signing official to sign a number of checks at one writing of his name. This is accomplished through the use of an attachment holding a number of pens which

write automatically when the signer is writing with one pen. This device compels the maker of the check, or some other person to whom he has delegated the duty, to sign the check. A second form of check signing device is one that automatically imprints on the check the signature of the payer together with his trade-mark or photograph. Checks in sheets can be inserted in this second type of machine, which signs and cuts them into single checks. An attachment on the machine stacks the checks numerically as they come out. This machine, which is electrically operated, can sign and stack as many as 7,500 checks per hour.

This second form of check signing device, described just above, possesses, according to its manufacturer, several safety features which prevent the use of the machine for unlawful purposes. In the first place, no less than two keys are necessary to unlock the machine—a master key for the executive and another key for the operator. In the second place, the machine features a check counter, which indicates the number of checks signed by the machine and by which the operator can be held to account for the number of checks signed. In the third place, the imprint which this machine produces is of importance; the signature is autographed together with an official's photograph or some other mark of identity on a half-toned background. This third feature is illustrated in Form No. 58. In the fourth place, the signature plates cannot be used if they are removed from the machine, for the signature appears on the plate in the same order as it appears on the check, and not in mirror-fashion.

The addressing machines discussed on page 102 may be considered as a third form of check signing device. The signature appears on a plate made from either metal (Form No. 50) or Japanese silk (Form No. 51).

### **Distributing the Wage Payment**

After the wage payment has been prepared, it is ready for distribution. In this connection several points must be considered. • One of these, viz., the determination of the place of



payment, relates to the time of day when the payment is to be made. Shall the workers be paid after or during working hours? Some labor unions require the payment to be made during working hours, but in other cases, where union or legal regulations are not involved, choice lies with the management. If the employees are paid during working hours, the management should choose for the place of payment one that will permit the payment of the largest number of employees by the smallest number of paymasters in the least possible time. On the other hand, if the payment is made after working hours, due consideration should be given to the time the worker loses—which should be kept to a minimum.

A second factor to be considered is that of convenience. The place chosen should be accessible to the employees and should, if necessary, permit congregation. Furthermore, it should not entail a considerable loss of the employee's time.

The question of safety is the third factor in the determination of the place of payment. Obviously, the place chosen should be such as to reduce to a minimum the opportunity for robbery, especially when the cash method of payment is used.

Another factor affecting the determination of the place of payment is the number of paymasters needed to make the distribution. The place, of course, should not require a larger number of paymasters than is consistent with the factors discussed above.

The place selected may be either at the worker's bench or at pay stations within his department, at the paymaster's or cashier's window, or at the factory entrance. If the payment is brought to the worker at his bench, production is not affected and no congestion is involved. On the other hand, such a practice may require more paymasters than would ordinarily be required if some other place were chosen.

The use of pay stations within a department results in congestion about the paying booth. Moreover, if the payment is made during working hours, there is a loss of time to the management, when the worker is paid on a time basis, or to the worker, when he is paid on a performance basis such as piece rates.



The paymaster's or cashier's window is used in cases where the employee is paid as he leaves the factory. This procedure requires less paymasters than do the methods by which the earnings are distributed in the various departments. Furthermore, if payment is made at the window of the paymaster or cashier, better methods can be installed for the protection of the common payroll fund against robbery. However, due to congestion, it often results in a loss of time on the part of the employee.

The entrance to the factory as a place of payment is not often used. Unless proper precautions are taken, such a location often invites burglaries and holdups. Nevertheless, the management may, at times, be compelled to use it. For example, it may happen that the night shift begins and ends its work at a time when the pay office is closed. It may be necessary, in that event, to have the night watchman pay the employees as they leave.

#### Identification of the Payee

A second problem involved in the distribution of the wage payment is the identification of the payee by some trusted official of the business. One purpose of making such identification is to assure the employer that each worker has received his pay. A second purpose is to prevent the padding of the payroll with dummy workers. If the identification is made by a responsible, honest, and alert official and if each worker whose name appears on the payroll is required to present himself, no worker would usually risk detection by appearing twice, nor can an outside person claim any envelope without discovery.

The identification may be made in a personal or impersonal manner. A personal identification is one made by a responsible employee or official, such as the foreman, timekeeper, or watchman, who knows the payee by sight. An impersonal identification requires each worker to present a signed receipt or to show his badge. These two methods may be combined by requiring each employee to be identified by his foreman or timekeeper and to present his signed receipt.

These various methods of identification have their respective advantages and disadvantages. The personal—better than the impersonal—method fulfills one of the main purposes of identification, viz., the prevention of dummies on the payroll. However, the impersonal identification, in which a signed receipt is obtained, furnishes the employer with written evidence that the employee has received his wages. The combination of the two methods accomplishes both purposes, but is, of course, a trifle more complicated.

### Pay Receipts

The use of pay receipts is a third point to be considered in connection with the distribution of the wage payment. Besides serving as a means of identification and as written evidence of the worker's having received his payment, pay receipts may be used for other purposes. For example, they may serve as a means of furnishing each worker with a statement of his earnings. In this way, employees may, if the statement is incorrect, register complaints prior to the receipt of their earnings. In addition, pay receipts may be used in "cost plus" contracts as evidence to satisfy the owner regarding the amounts actually expended for wages.

Pay receipts are, of course, quite necessary when the currency method of payment is used—especially where an outside company is employed to distribute the wages. They may be dispensed with under the check method of payment only when the pay check is made payable to the employee. Here the worker's indorsement, which is necessary for the transfer of the instrument, is a satisfactory receipt. Some managements, however, may require the use of pay receipts, even in cases where the check is made payable to the employee, merely because it is a custom that has remained from the time when the currency method of payment was in use.

**FORM AND CONTENT OF PAY RECEIPTS.**—The most common form of pay receipt, illustrated in Form No. 59, is one that is

attached to the attendance record. As soon as the worker receives his attendance record at the beginning of the pay period, he tears off from the attendance record the receipt, which he retains until pay day when he presents it. If, in the interval, he should lose it, he is required to notify the Accounting or Payroll Department, which issues a new one to him.

Inasmuch as pay receipts attached to the attendance records may become lost or soiled from too much handling, unattached pay coupons are often used. These are distributed to the employees on pay day and are presented to the paymaster by each employee when he receives his pay envelope.

The content of the pay receipt usually consists of a signed statement to the effect that the employee has received his wages for the pay period mentioned in the body of the slip.

### **Payroll Complaints**

Although identification cards and pay receipts may aid in the removal of workers' complaints regarding the receipt of their pay, they do not eliminate complaints concerning the amount of the wage received. No matter how efficient a cost or an accounting system may be, errors are bound to arise. These errors may be due to either or both of two causes—erroneous data or faulty calculations.

Errors may be caused by incorrect attendance or performance records. Workers paid on a time basis may question the accuracy of the time reports. Piece workers may be under the impression that they should be paid for a certain quantity produced, whereas the checker or inspector may have credited them with a smaller amount because of defective work or some other reason. Employees paid on a bonus basis may have similar complaints.

Miscalculations give rise to the other class of errors. The amount due employees who are paid on a time basis may be incorrect because of the use of an erroneous wage rate or a mistake in computation. Similar errors may occur in connection with piece workers' wages or in the calculation of bonuses. Wrong



Both classes of errors may be reduced in number through the carefulness of the clerks concerned, a constant checking of amounts, and the use of mechanical devices. The inspection and count of the employee's work should be made in his presence. All attendance and performance records should be carefully prepared before distributing them to the workers. If either one of the latter records is used as a basis for the preparation of the payroll, all extensions and additions should be carefully rechecked. Great care should be taken in transferring the information from the basic record to the payroll. All payrolls should be carefully prepared; their arithmetical additions and extensions should be examined by clerks other than those engaged in their preparation. The pay envelopes should be accurately filled and the pay checks correctly drawn.

**SETTLING PAYROLL COMPLAINTS.**—The question as to when the payroll complaints are to be settled is very important to both the employee and the employer. If an error greatly affects a worker's pay, he may suffer hardships, for he may depend entirely upon each period's earnings. Moreover, if the removal of complaints is delayed, ill will towards the employer and discontent on the part of the workers may be caused. The employer is then affected through large labor turnovers and through a lowering of the esprit de corps of the workers.

The selection of the person to whom these complaints are to be submitted requires consideration. They may be submitted to the paymaster, from whom the worker receives his pay, or to the official, such as the foreman or timekeeper, with whom the worker is in constant contact, or to an official whose duty it is to receive such complaints. The choice of the person depends upon the speed with which such adjustments can be made.

If the complaint is adjusted immediately, the additional payment may be made out of a cash fund or by check and charged to the fiscal period in which the service was rendered. Otherwise, the payment is included with the pay of a following period. The record may, in the second instance, be made as a charge to

the period in which the payment is made if the amount is small. If, on the other hand, the amount is large, it should, wherever possible, be charged back to the fiscal period in which the service was rendered.

### **Irregular Distributions**

As mentioned above, distributions of the wage payment are of two kinds—regular and irregular—those occurring on the usual pay day being classed as regular, whereas payments made to absentees and to resigning or discharged workers are considered as irregular distributions, because they usually take place on days other than the regular pay days. Furthermore, the payments to a resigning or a discharged employee frequently necessitate the preparation of a special pay envelope and payroll, as well as a careful accounting, by the employee, for any company property which he may have been using.

**PAYMENTS TO ABSENTEE WORKERS.**—Workers who are absent on pay day should be specifically identified in order to protect the employer against paying the wage to the wrong person. When the worker asks for his envelope, identification should usually be made by some other employee of the business, by some official who knows him, such as the timekeeper or his foreman or the employment department official. If the worker is permitted to receive his pay through a representative, the latter should be compelled to present written authority to receive the money. Furthermore, the worker or his representative should be required to sign a pay receipt, thereby acknowledging the payment of the wage claim.

The time and place of payment is usually established in accordance with the convenience of the employer. The absentee may be required to call at a definite hour set by the management or at any time during or after working hours. The place of payment may be the office of the official who distributes the wages or salaries on regular pay days, the office of the general cashier or treasurer, who has been entrusted, immediately after the regu-

lar pay-off, with all unclaimed pay envelopes, or the office of the Employment Department, where the employee may be identified by the official in charge.

In some businesses, especially where the manufacturing processes are such as to make employees susceptible to various forms of occupational diseases, an absentee worker may be required, upon his return after an absence of three or more days, to undergo the regular discharge procedure (see below for an explanation of such procedure) after having been subjected to a thorough physical examination. At the same time that he is being "discharged," he receives his pay; he then passes through the regular employment procedure and is reinstated.

Unclaimed pay envelopes or checks require the employer to take extra precautions against their misappropriation. Immediately after the regular pay-off, all such envelopes or checks should be turned over to a responsible official by the paymaster or clerk. The person holding them should be required to report frequently concerning their disposal. If any or all of them have been distributed, the employee accountable for them should be required to submit receipts from the absentee employees receiving them.

The length of time such unclaimed wages are kept varies with each business. One may keep the unclaimed pay check or envelope for several months before it is redeposited to the credit of the employer, while another may keep it for a year before redepositing. Regardless of what disposal of such payroll funds is made use of, the *liability* for these claims should not be eliminated until the expiration of the period set by the Statute of Limitations.

**PAYMENT OF DISCHARGED OR RESIGNING EMPLOYEES.**—The payment to a discharged or a resigning employee is usually initiated by notice to such employee, if discharged, and to the departments concerned. This notice may be made verbally but, preferably, in writing.

The number of written notices of the departure depends upon the number of departments to be notified. If the Payroll De-

partment is the only one to be informed, one notice is all that is necessary. If, however, the discharged employee is responsible for company tools, the Tool Department must be notified. If an Addressing Department prepares the payroll, attendance records, and other time reports, it must be instructed to remove the worker's stencil from the active files. If an Employment Department is maintained, it, too, must be advised concerning the departure.

The content of the dismissal notice depends upon the information required by the various departments interested in the employee's leaving. The Payroll Department, for instance, requires the name and number of the employee, the number of hours or pieces to be paid for, the department to which the worker belonged, the name of the official discharging the employee, and the name of the official approving the discharge. The Employment Department may desire to know the cause of the dismissal or resignation in order that it may prepare its reports of labor turnover. If a permanent record of an employee's character and ability is kept, the notice of termination must contain such information.

The preparation of all notices may be made by the discharging official or by some other official one of whose duties is this type of task. For example, if the Employment, Payroll, and Cashier's Departments are to be notified, the dismissal notice may be written in triplicate by the discharging official, who sends the notices directly to the departments concerned. On the other hand, the discharging official may prepare one dismissal notice, which is sent to the Employment Department; the latter, in turn, prepares the necessary notices which are to be sent to the Payroll and Cashier's Departments.

As each department receives its notice, it carries out its portion of the procedure relative to the release of the employee. The Employment Department interviews the worker in an attempt to determine the reason for his discharge or resignation. The Payroll Department determines the amount due. The Tool Depart-



ment investigates the employee's tool record to see whether the worker owes anything for the tools lent to him. Finally, the Paymaster's or Cashier's Department pays, when it receives, from the Payroll Department, notice of the amount due the worker.

The method of payment may be the same as that which is used on the regular pay day. If, however, the amount to be paid is small, it may be paid in cash from the petty cash fund, even though the check method of payment is regularly utilized. The use of either method depends upon the convenience of either the employer or the employee.

The requirement of a pay receipt upon payment of the amount due is the proper practice to be followed whenever payment is made in currency. If the check method of payment is used and if the check is made payable to the employee, the worker's indorsement of the instrument is, of course, a sufficient receipt. In the case of a discharged employee, it is usually advisable even under the check method of payment to require a pay receipt, as this furnishes a permanent and distinct record which, if properly worded, will release the employer from all future claims.

### Summary

Wage distribution, that process in the preparation of a payroll that follows its approval, is of two kinds—regular and irregular. The regular distribution takes place on the regular pay day, the date of which may be regulated by state law, and is made in currency, by bank check, or by a credit to a bank account. In addition to the fact that each of these methods of payment has its own advantages and disadvantages, it is worth while noting that a cash payment involves three steps—the determination of the currency denominations, the securing of the currency from the bank, and the filling of the pay envelopes—whereas the check method involves only two—the establishment of the payroll fund and the writing of the checks. Furthermore, there are mechanical devices which may be used in either of these systems.

The place of payment, which depends upon several considerations, may be the worker's bench, the pay stations established in

his department, the window of the paymaster or cashier, or the factory entrance. In order to be certain that each employee receives his own pay and to prevent payroll padding, identification is necessary and may be made by some official familiar with the worker or by a pay receipt, pay check, or employee's badge.

Obviously, payroll complaints which arise from incorrect attendance or performance records are detrimental to both employer and employee and should be adjusted by some person who is able to make the corrections quickly.

Irregular distribution, the second type of wage distribution, consists of payment to workers who were absent on the regular pay day and to employees who are leaving permanently. Payments to the former involve the temporary safekeeping of the pay envelopes or checks and the necessity for insuring their receipt by such employees. Payments to discharged employees necessitate the notification of the departments interested, the selection of a proper method of payment, and the use of a pay receipt.

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## VITA

Born in Passaic, New Jersey, on January 20, 1895. Received the degree of Bachelor of Arts from the College of the City of New York in 1917 and the degree of Master of Arts from the Faculty of Political Science, Columbia University, in 1921. Admitted to Associateship in the American Institute of Accountants in 1927 and became a Certified Public Accountant of the State of New York in 1928. Has been engaged in Accounting research and practice for various private concerns. Has aided in the preparation and revision of several of Professor Roy B. Kester's Accounting Texts. Has been a member of the Accounting Faculty of the College of the City of New York since 1929.